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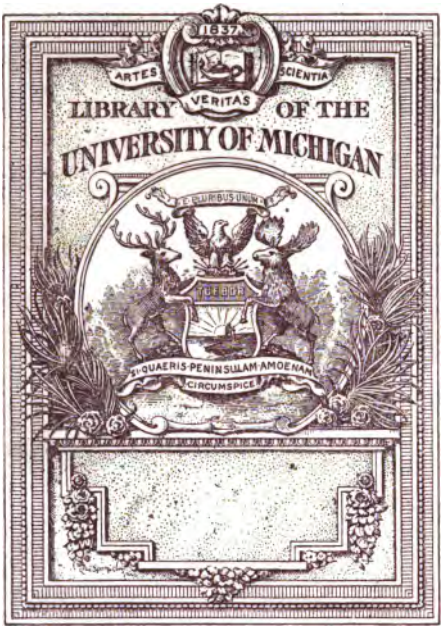

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GRAND STAND, STATE FAIR PARK—FAIR OF 1902.

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ANNUAL REPORT

OF THE

WISCONSIN

State Board of Agriculture

For the Year 1902.

COMPILED BY

JOHN M. TRUE, Secretary.

MADISON, WIS.
DEMOCRAT PRINTING COMPANY, STATE PRINTER
1903

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LETTER OF TRANSMITTAL.

To His Excellency, ROBERT M. LA FOLLETTE,
Governor of the State of Wisconsin.

SIR:—The annual report of the Wisconsin State Board of Agiculture, for 1902, is herewith respectfully submitted, for your consideration.

JOHN M. TRUE,
Secretary.

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OFFICERS

F THE

Wisconsin State Board of Agriculture.

President—George McKerrow.
Vice President—S. D. Hubbard.
Secretary—John M. True.
Treasurer—(Ex-officio) J. O. Davidson, State Treasurer.

BOARD OF MANAGERS.

President—George McKerrow.
Vice President—S. D. Hubbard, George G. Cox, C. G. Wilcox, P. R. Hannifin.

MEMBERS OF WISCONSIN STATE BOARD OF AGRICULTURE.

At Large—George Wylie, Leeds.
At Large—S. D. Hubbard, Mondovi.
1st District—C. H. Everett, Racine.
2d District—George Klein, Ft. Atkinson.
3d District—George G. Cox Mineral Point.
4th District—P. R. Hannifin, Milwaukee.
5th District—George McKerrow, Sussex.
6th District—C. W. Harvey, Beaver Dam.
7th District—John L. Herbst, Sparta.
8th District—F. A. Huebner, Manitowoc.
9th District—C. G. Wilcox, De Pere.
10th District—Anton Emmerich, Emmerich.
11th District—John W. Thomas, Chippewa Falls.

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LAWS

RELATING TO

WISCONSIN STATE BOARD OF AGRICULTURE

Wisconsin Statutes of 1898, Chapter 60.

SECTION 1456. The Department of Agriculture, as heretofore established, is continued. Its object shall be the promotion of the interests of agriculture, dairying, horticulture, manufactures and domestic arts.

Said department shall be managed by a board, to consist of one member from each congressional district and two from the state at large, to be appointed by the governor, for terms of three years from the first day of January in the year of their appointment.

Not more than two-thirds of the members of said board shall be, at the time of making any appointment thereto, members of the same political party. Vacancies shall be filled by the governor for the unexpired portion of the term.

SECTION 1457. The members of said board shall serve without compensation, but shall be reimbursed out of any funds set apart for their use by the state, or otherwise received by them, the sums actually expended in the performance of their duties.

SECTION 1458. Said board shall hold its annual meeting on the first Tuesday of March, and at such meeting shall elect one of its members as president, and one as vice president, and some person, not a member, as secretary, who shall hold his office for one year unless he is sooner removed by the board.

The state treasurer shall be ex-officio treasurer of the board.

Such officers shall perform such duties as usually pertain to such offices, and such as the board may direct.

SECTION 1458a. Said board may occupy such rooms in the capitol as may be assigned for that purpose by the governor.

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They shall have sole control of the affairs of the Department of Agriculture, and all state fairs, and state fair grounds, and may make such by-laws, rules and regulations in relation to the management of the business of such department, and said fairs, and the offering of premiums thereat, as they shall from time to time determine.

The board shall make a report of its action to the governor, on or before the first day of December in each year.

SECTION 1458b. Whatever money shall be appropriated or otherwise received by said board, for the Department of Agriculture shall be paid to the state treasurer, and be disbursed by him, on orders signed by the president and secretary of the board, for such purposes as, in the judgment of the board, will best promote the interests committed to their charge.

No officer, clerk or employee of said board shall have any claim upon the state for any salary or expenses, except such as may be allowed by the board, and paid from any appropriation or funds under their control; and the state shall not in any manner whatever be liable for any debt or obligation incurred, or contract made by said board.

SECTION 1458c. On the presentation to him of the sworn statement of the secretary of said board, showing the amount paid by the board for premiums at their last annual fair, the secretary of state shall issue his warrant for ten per centum of such amount, and on the presentation of such a statement signed by the president and secretary of the board, certifying that the sale of intoxicating liquors has been prohibited and prevented, upon the fair grounds thereof, during the last preceding fair, he shall annually draw his warrant for four thousand dollars.

SECTION 1466. The principal officers of the state board of agriculture, ..., shall have full jurisdiction and control of the grounds, on which such board may exhibit, and all the streets, alleys and other grounds adjacent to the same, during all such exhibitions, so far as may be necessary to exclude therefrom all other exhibitions, booths, stands or other temporary places for the retail or sale of any kind of spirituous or fermented liquors, or other articles, that they might deem objectionable.

The president, or in his absence, any vice-president acting in his stead, may appoint any necessary policeman to assist in preserving the peace, and enforce the regulations upon the ground and adjacent streets, who, for such purpose, shall have all the powers of a constable and be entitled to similar fees.

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ANNUAL REPORT

OF THE

WISCONSIN STATE BOARD OF AGRICULTURE

1902.

MINUTES OF MEETINGS OF THE BOARD.

Madison, February 4, 1902.

Meeting of the board; present, Messrs. Wylie, Hubbard, Everett, Cox, Hannifin, McKerrow, Harvey, Huebner, Wilcox and Thomas.

President McKerrow in the chair.

On motion of Mr. Wilcox an auditing committee of three was appointed to pass upon the accounts of the secretary and treasurer for the past year, and report to the annual meeting of the board.

The chair named Messrs. Wilcox, Wylie and Thomas, as such committee.

On motion of Mr. Wylie, Mr. Wilcox was chosen a delegate from this board to a meeting of the Great Western Trotting Circuit, in Chicago, Feb. 11.

The secretary reported the receipt of required affidavit of Mr. Geo. Allen, as to eligibility of sheep shown by him at last

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state fair; and presented a communication from Mr. R. J. Stone, withdrawing his claim to premiums awarded to him upon sheep that were protested on the ground of ineligibility, and the secretary was instructed to adjust premiums in accordance with these papers, and the awards shown by his books.

The secretary was instructed to obtain measurements of rings used in judging live stock at fair, and consult with tent dealers with reference to rental of to be used in judging.

On motion of Mr. Hubbard, a committee of two was provided for, to consider the lease of half mile track, for coming season to Milwaukee Driving Club, and to report to annual meeting of board.

The president appointed Messrs. Hannifin and Wilcox.

On motion of Mr. Wilcox, the board of managers was constituted a committee to confer with the promoters of the proposed "Yahr Markt" in Milwaukee, in order, if possible, to avoid a conflict of interests; such committee to report to annual meeting.

The secretary was instructed to arrange for a meeting of such committee and the "Yahr Markt" people.

Adjourned.

JOHN M. TRUE,
Secretary.

ANNUAL MEETING.

Madison, March 4, 1902.

Present Messrs. Wylie, Hubbard, Everett, Cox, Hannifin, McKerrow, Harvey, Huebner, Wilcox and Thomas.

President McKerrow presided. Minutes of previous meeting were read and approved.

Mr. Wilcox, delegate to meeting of Great Western Trotting Circuit, submitted a verbal report.

Mr. Wilcox, of committe to confer with Milwaukee Driving Club, relative to track privileges, reported progress.

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President McKerrow, of committee to meet "Yahr Markt" association, submitted a verbal report of progress.

The secretary was instructed to place our State Fair race meeting in the Illinois–Wisconsin circuit, provided expense is not to exceed $25 for season of 1902.

On motion of Mr. Wylie moved that the board allow no advertisements painted, pasted or nailed upon state fair buildings or fences.

On motion of Mr. Wylie, the secretary was made press agent of the board for the coming season, he to perform such duty under the direction of the board of managers.

Mr. Hubbard introduced the following resolutions, and moved their adoption: "Whereas it has been reported that a proposal has been made to the land commissioners, to purchase the land now enclosed on the east side of the fair grounds, and whereas such grounds are worth much more than when purchased by the state, and from the fact that the property is rapidly increasing in value; and from the further fact that said grounds are needed to place the speed barns upon, which the State Board of Agriculture contemplates doing in the near future,—therefore resolved that said land commissioners be and are hereby respectfully asked to defer, for the present at least, any contemplated sale of the before mentioned grounds."

The resolution was adopted, and the secretary was instructed to present a copy of the same to state land commissioners.

On motion of Mr. Everett, the selection and engagement of special features for fair were left to board of managers.

Took a recess until evening, 7:30 o'clock.

Evening Session.

Quorum present. The committee of audit reported as follows: Your committee to whom was referred the report of the secretary, would respectfully report that we have carefully checked over the vouchers of money received and paid out, and find the same correct.

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Money received during 1901	$57,232.38
Money paid out during 1902	51,096.49
Balance on hand Jan. 1, 1902	6,135.89

C. C. Wilcox,
Geo. Wylie,
J. W. Thomas,
Committee.

On motion of Mr. Everett, the report was accepted.

On motion of Mr. Everett, the secretary was instructed to procure badges for use of all members of the board at time of state fair, thesebadges to be good for admission at all gates under control of the board.

On motion of Mr. Everett, voted that in issue of helper's tickets in Privilege Department, the rate be not to extend one ticket for every ten dollars, or additional fraction of one-half or more, paid for rental, except in dining halls, lunch counters, and show privileges, where the number of tickets for any single privilege paying $150.00 or more shall not exceed fifty. Voted to adopt the idea of coupon helpers' tickets, suggested by Mr. Harvey.

On motion of Mr. Wilcox, voted that all superintendents keep accurate account of helpers' tickets issued, and file statements and stubs of same with secretary at close of fair.

Voted to close entries in live stock department at fair August 30.

The revision of premium list was taken up, and the following changes made in list of 1901:

Dept. A.—Premiums for "mare 4 years old or over" were made $15, $10 and $5. Added "mare with foal at foot both to be considered," premiums $15, $10 and $5, and made "stallion or filly foal" $10, $7 and $4.

In "Standard bred and Registered Trotting Horses," stallions four years old or over are to be shown in harness.

Voted to make only one "Coach" class; all animals to be registered.

Height of ponies was fixed at not more than 48 inches.

Dept. B.—Mr. Wylie was authorized to revise premiums for

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Shorthorn cattle, and report to secretary.

On motion of Mr. Thomas voted to offer $300.00 in prizes for Hereford cattle in case Hereford Breeders' Association give a like amount in special premiums, otherwise to drop the class.

On motion of Mr. Wilcox, Devon class was dropped.

On motion of Mr. Everett, Galloways and Brown Swiss were given full classes.

Voted to drop class 24, "Farmers' class."

Adjourned until 8 o'clock, Wednesday morning.

JOHN M. TRUE,
Secretary.

Wednesday morning, March 5.

All members present except Mr. Klein.

Continued the revision of premium list, as follows:

Class C.—On motion of Mr. Everett, voted to strike out rule requiring ownership of ewes for six months prior to exhibition.

On motion of Mr. Hubbard, Cheviot class was dropped, and a class for Angora goats made, $50.00 to be offered in premiums.

Class F.—Distance in county exhibits was cut to 500 points. "Bakings and Confections" was striken out of "Honey Exhibit."

Several minor changes were made, upon suggestion of Supt. Huebner.

Class G.—On motion of Mr. Thomas, $40.00 was taken from premium on "Dairy Butter," and added to that of "Creamery Butter."

Changes in rules governing department were left to Supt. Thomas.

Class H.—On motion of Mr. Hannifin, the revision of premiums in this class was left to president and secretary.

Class J.—On motion of Mr. Hubbard, the wire fence exhibit was placed in this department.

Class K.—On motion of Mr. Wilcox, the revision of list was left to Supt. of department, the amount of premium offered not to exceed those of last year.

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Class L.—Revision left to Supt., amount not to be increased from that of last year.

On motion of Mr. Cox, the Pigeon Dept. was added to Department E, and is to be run under the same rules of entry as other exhibits.

On motion of Mr. Hannifin, voted to amend rule governing the appointment of assistant superintendents, allowing superintendents to appoint one or more assistants.

On motion of Mr. Wilcox, preceeded to the election of officers for the coming year.

On motion of Mr. Hubbard, the secretary was instructed to cast the vote of the board for Mr. McKerrow, for president.

The secretary cast ballot, and Mr. McKerrow was declared elected.

On motion of Mr. Hannifin, the president was instructed to cast the ballots of the board respectively for S. D. Hubbard, for vice president, and John M. True, for secretary.

The ballots were cast, and the officers declared elected.

Additional members of the Board of Managers were elected as follows, George G. Cox, C. G. Wilcox, and P. R. Hannifin.

On motion of Mr. Hannifin, the appointment of Supt. of Grounds, and the employment of help on grounds for season, was left to the president.

The following Superintendents of Departments at State Fair were chosen:

Privileges—S. D. Hubbard.
Gates—David Wedgwood.
Forage and Transportation—John LeFeber.
Speed—Wilcox.
Horses—W. L. Houser.
Cattle—C. H. Everett.
Sheep—H. A. Briggs.
Swine—George Wylie.
Poultry—C. W. Harvey.
Agriculture—F. A. Huebner.
Dairy—John W. Thomas.
Horticulture—John L. Herbst.

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Machinery—J. E. Seaver.
Art—Mrs. C. A. Scott.
Woman's Work—Miss M. E. Chadwick.
Marshal—George G. Cox.
Took recess until 1:30 P. M.

Afternoon Session.

Quorum present. Mr. McKerrow was elected member of the Wisconsin Live Stock Sanitary Board, to succeed himself, for a term of three years.

The secretary announced the receipt of a telephone message from Mr. Strumpf, of the Milwaukee Yahr Markt Association, stating that it would be impossible for a committee from that body to meet board of agriculture, as had been arranged. On motion of Mr. Harvey, the board of managers was authorized to meet the Yahr Markt Ass'n, if that body desire a meeting, and the board of managers have full power to decide whether to hold fair or not, or to change dates or location for fair, and this board will endorse its action.

Messrs. Mansfield and Dunbar, of the Milwaukee Driving Club, came before the board, and asked for a lease of track and other privileges on fair grounds for the coming season.

On motion of Mr. Wylie, the leasing of track was left with board of managers. On motion of Mr. Hannifin, the general matter of advertising the fair was left with president and secretary.

On motion of Mr. Hubbard, Pres. McKerrow was made purchasing agent of the board for coming year.

Mr. Wilcox introduced the following resolution, which was adopted.

"Resolved, That the Wisconsin State Board of Agriculture respectfully request the State Board of Commissioners to represent the State of Wisconsin, at the St. Louis exposition, to appropriate a sufficient amount to enable the agricultural and live

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stock interests of the state to be successfully represented at such exposition."

On motion of Mr. Everett, all unfinished business was left to the board of managers. On motion of Mr. Everett, adjourned.

JOHN M. TRUE,
Secretary.

Madison, March 5, 1902.

Meeting of Board of Managers.

All members present. Mr. Hubbard introduced the following resolution which was adopted: "Resolved that the State Board of Agriculture hereby agrees to enter into a contract with the Milwaukee Driving Club, to grant it certain track and stall privileges, for the coming season, to be more fully defined in said contract."

Messrs. McKerrow and Hubbard were named as a committee to try for an arrangement with railroads to sell coupon tickets at the time of State Fair, containing a ticket of admission to fair, and also to try for reduced street car rates, during fair.

On motion of Mr. Hubbard, the secretary was authorized, in the name of the board, to issue to Mr. E. A. Hartmann a permission to solicit advertising, for the publication of 150,000 official programs of state fair, the same to be without expense to this board.

Adjourned.

JOHN M. TRUE,
Secretary.

Milwaukee, March 27, 1902.

Meeting of Board of Managers.

All members present. The secretary submitted the proposed lease of privileges at State Fair Park, to Milwaukee Driving Club, which was approved by the board.

The following resolution was presented by Mr. McKerrow, and adopted: "Whereas the charging of freight both ways on

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FROM ADMINISTRATION BUILDING, STATE FAIR PARK.

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show horses, at state fairs, will make our horse shows purely local affairs, and in a sense a failure, and will be a great detriment to the success of such shows, therefore

"Resolved, That the Wisconsin State Board of Agriculture respectfully ask the railway freight managements to reconsider their recent action in deciding to charge full freights each way, on show horses at state fairs."

On motion of Mr. Wilcox the dates of next state fair at September 8–12, inclusive.

Pres. G. W. Mansfield, of Milwaukee Driving Club, came before board has accepted the terms of lease of privileges at State Fair Park.

The lease was then signed in duplicate by the presidents of the respective organizations interested.

Under conditions of lease, Mr. Mansfield asked for the assignment of fifteen stalls, for use of club.

On motion of Mr. Hannifin, the secretary was instructed to ask the superintendents of the several departments to nominate judges for their respective departments, on or before April 10.

A delegation from Milwaukee Newspapermen's Golf Club came before the board, and asked for the privilege of playing on grounds at State Fair Park. The president was authorized to arrange conditions under which permission would be granted.

Adjourned.

JOHN M. TRUE,
Secretary.

Fair Grounds, April 11, 1902.

Meeting of Board of Managers.

Present—Messrs. McKerrow, Hubbard, Cox and Hannifin.

Mr. J. S. Connolly of Des Moines, Iowa, came before the board in the interest of a collision of locomotive engines, as an attraction at coming state fair.

He was requested to submit a proposition to the secretary of the board in writing; and the further consideration of, and final action upon the same was left to the president.

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On motion of Mr. Wilcox the amount of money to be offered for speed purses at the coming fair was limited to $11,000.

Adjourned.

JOHN M. TRUE,
Secretary.

Milwaukee, June 9, 1902.

Meeting of Board of Managers.

The Board of Managers met at Hotel Pfister; present, Messrs. McKerrow, Cox and Hannifin.

The question of a change of dates of holding state fair, in order to secure the presence at fair of President Roosevelt was considered, and the secretary was instructed to call a meeting of full board at office in Madison, Saturday, June 14, at 1:30 P. M.

Adjourned.

JOHN M. TRUE,
Secretary.

Madison, June 14, 1902.

Meeting of Board of Agriculture.

Present—Wylie, Everett, Cox, Hannifin, McKerrow, Harvey, Emmerich and Thomas. President announced as the business of the meeting, the consideration of the question of changing dates of fair to Sept. 22–26, to meet the contemplated visit of Pres. Roosevelt to Milwaukee.

After a full discussion of the matter, the board decided without any formal vote, that it was not expedient to make a change of dates, and president was instructed to explain reasons for such decision, in a letter addressed to the Merchants' and Manufacturers' Association of Milwaukee.

Adjourned.

JOHN M. TRUE,
Secretary.

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Fair Grounds, July 18, 1902.

Meeting of Board of Agriculture.

Present, all members except Messrs. Klein and Hannifin.

Under the head of proposed improvements at fair grounds, on motion of Mr. Hubbard, the further improvements of streets was left to Supt. Cox, under the direction of the board of managers, the amount to be expended in the work to be limited to $400.00.

On motion of Mr. Everett, voted to leave the question of building a new cattle barn to board of managers, to be decided by apparent necessity, later.

On motion of Mr. Wylie, voted to advertise the railroad collision act for Wednesday of week of the fair.

On motion of Mr. Hubbard, $2,500.00 additional speed purses were authorized, or as much of same as may be deemed necessary.

On motion of Mr. Everett, voted to authorize secretary to engage Allie Wooster's attraction of hurdle race, lone runner, etc., for fair at $350.00.

On motion of Mr. Wylie, voted that the number of complimentary tickets bee issued to members of the board, be limited to fifteen coupon tickets.

Adjourned.

JOHN M. TRUE,
Secretary.

Fair Grounds, Sept. 9, 1902.

Meeting of Board of Agriculture.

Present—Messrs. Wylie, Cox, McKerrow, Herbst, Huebner, Wilcox and Thomas. The president was authorized to arrange for the presence on grounds, of detachment of Milwaukee city police, during fair; also to procure chemical engine for fire protection.

The superintendent of gates was instructed to admit the city police to grounds upon their stars.

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On motion of Superintendent Wilcox the secretary was authorized to offer Mrs. Adlands of Chicago, not to exceed $25.00 for exhibition of driving on track Tuesday and Thursday.

Adjourned.

JOHN M. TRUE,
Secretary.

Monday, September 8, 1902.

Present—Wylie, Hubbard, Cox, McKerrow, Harvey, Herbst and Thomas.

The president presented the request of several parties for complimentary tickets, and on motion of Mr. Hubbard, voted to grant free admission to force of "American Thresherman."

On motion of Mr. Wylie, voted to issue complimentary tickets to president and members of village board of West Allis.

Adjourned.

JOHN M. TRUE,
Secretary.

Tuesday, September 9, 1902.

Quorum present. Instructed clerk in sheep department to keep a list of findings of judge in Leicester and Lincoln sheep, and if financial standing after fair will allow, the board will consider the payment of premiums to these breeds.

The granting of grand stand privileges was left to Supt. Cox, and the president. The board declined to issue additional complimentary tickets to city papers.

Adjourned.

JOHN M. TRUE,
Secretary.

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Wednesday, September 10, 1902.

Quorum present. On motion of Mr. Hannifin, voted that president and secretary be authorized to settle with Mr. Connolly for railroad collision act, on best terms possible.

On motion of Mr. Herbst, voted that the board award Mr. A. G. Tuttle of Baraboo premium of $10.00 on display of Russian apples, if, after fair, financial conditions will allow.

On question of request of E. D. Ochsner for extension of time for placing exhibit of honey, on motion of Mr. Everett, the board voted to adhere to its published rules, relative to exhibits being placed on Monday of fair.

Adjourned.

JOHN M. TRUE,
Secretary.

Thursday, September 11, 1902.

All members present, except Messrs. Klein, Hannifin and Emmerich.

Supt. Wilcox presented the request of horsemen in speed department for reduction in entry fees, and the motion of Mr. Everett, to leave the matter to president for adjustment, was on motion of Mr. Harvey, laid over until next meeting.

Adjourned.

JOHN M. TRUE,
Secretary.

Friday, September 12, 1902.

Present—Messrs. Hubbard, Cox, McKerrow, Herbst, Wilcox, Emmerich and Thomas. Various bills were read by the secretary, and on motion of Mr. Wilcox, ordered paid. Episcopal ladies asked for rebate on charge agreed upon with superintendent of privileges, for rent of dining hall, which request, on motion of Mr. Wilcox, was granted.

On motion of Mr. Herbst, voted to approve action of board

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of managers with Mrs. Webster, who had been injured by fall on walk, today.

The question of concessions to speed men, laid over from yesterday, was taken up, and certain recommendations made by Supt. Wilcox, were, on motion of Mr. Wilcox, adopted.

On motion of Mr. Herbst, the secretary was authorized to pay Miss Cook $50.00, for exhibitions of riding at fair.

Adjourned.

JOHN M. TRUE,
Secretary.

Madison, October 10, 1902.

Present—Messrs. Wylie, Hubbard, Everett, Cox, McKerrow, Harvey, Emmerich and Thomas. On motion of Mr. Hubbard, Mr. A. G. Tuttle was allowed a special premium of $10.00, for exhibit of Russian apples at state fair, no regular premium having been offered.

One-half of regular class premiums in sheep department were ordered paid to exhibitors of Leicester and Lincoln sheep at last fair, in accordance with awards of judge at that time.

The protest of O. L. Kuehn, and C. F. Chamberlain of Milwaukee, against payment of premium awarded, in Dept. "E," to L. A. Jansen, assistant superintendent of department, was, on motion of Mr. Everett, sustained, and non-payment of premiums ordered. On motion of Mr. Hubbard, voted to allow Mr. Jansen $55.00, as compensation for services in promoting pigeon exhibit at fair.

On motion of Mr. Wylie, the president and secretary were instructed to consult attorneys in reference to injunction suit of H. D. McKenney against board, and after such consultation, to act as they deem best in relation to the matter.

Voted to hold annual convention at Madison, February 4 and 5, 1903.

The following named gentlemen were chosen delegates to the annual meeting of American Association of Fairs and Exposi-

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tions, in Chicago, December next—Pres. McKerrow, Secy. True, Harvey, Wylie and Cox.

The president was authorized to fill any vacancy that may occur in delegation.

On motion of Mr. Hubbard a committee on legislation, consisting of three members, was ordered, such committee to have power to call to its assistance other members of the board, as it may deem advisable.

The board elected Messrs. Harvey, Cox and Everett such committee.

On motion of Mr. Hubbard, Supt. Cox was authorized to take steps to move speed barns to location on grounds now outside of fence, on east side of present enclosed grounds.

Adjourned.

JOHN M. TRUE,
Secretary.

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FINANCIAL REPORTS.

FINANCIAL REPORT OF SECRETARY.

To the Wisconsin State Board of Agriculture,

Gentlemen:—I beg to submit the following report of money received by me as secretary, during the year 1902, which funds were duly passed to the Treasurer, receipts for which are herewith submitted.

From S. D. Hubbard, Supt. of Privileges	$2,351 50
From C. G. Wilcox, Supt. of Speed	4,776 25
From Geo. G. Cox, Supt. of Grounds	627 75
From class entries	1,175 00
From stall and pen rent	1,185 25
From American Shorthorn Breeders' Association	500 00
From all other sources	537 74
Total	$11,153 49

JOHN M. TRUE,
Secretary.

TREASURER'S REPORT.

Cash on hand January 1, 1902	$6,135 89
Received from Secretary during year	11,153 49
Received from gates during fair	28,628 75
Received from State appropriations	6,483 40
Total	$52,401 53
Amount paid out on orders	$41,388 12
Cash on hand January 1, 1903	$11,013 41

J. O. DAVIDSON,
Treasurer.

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SECRETARY'S WARRANT ACCOUNT.

No.	To whom and for what.	Amount.
1.	Jas. G. Allen, Asst. Supt., cattle, fair 1901	$10 50
2.	Geo. A. Schneider, daily papers	2 70
3.	John M. True, expense allowance, Jan.	25 00
4.	C. H. Everett, expenses, Am. Assoc. Fairs and Expos...	5 22
5.	A. Le Feber, oats	26 00
6.	Am. S. H. B. Assoc., herd books	9 00
7.	John M. True, on Jan. salary	50 00
8.	John M. True, on Jan. salary	50 00
9.	Robert Philip, wages, January	30 00
10.	John M. True, expense allowance, February	25 00
11.	David Wedgwood, expenses	8 50
12.	J. W. Thomas, expenses	13 70
13.	George Wylie, expenses	4 94
14.	Delbert Utter, convention expenses	7 40
15.	L. K. Wright, convention expenses	12 82
16.	Thomas Convey, convention expenses	4 35
17.	John M. True, on February salary	35 00
18.	F. A. Huebner, expenses	9 65
19.	A. L. Fisher, convention expenses	3 65
20.	A. F. Postel, convention expenses	9 45
21.	John M. True, bal. February salary	65 00
22.	Geo. McKerrow, Premiums Dept. C., fair 1901	27 00
23.	Robert Philip, wages, February	30 00
24.	F. A. Huebner, expenses	14 86
25	C. W. Harvey, expenses	12 09
26.	J. W. Thomas, expenses	17 07
27.	C. G. Wilcox, expenses	40 27
28.	George G. Cox, expenses	30 00
29.	George McKerrow, expenses	10 39
30.	S. D. Hubbard, expenses	14 65
31.	George Wylie, expenses	2 47
32.	C. H. Everett, expenses	10 14
33	John M. True, expense allowance, March	25 00
34.	John M. True, salary, March	100 00
35.	Wis. Lakes Ice Co., ice, fair 1901	25 00
36.	John M. True, expenses in Milwaukee	5 75
37.	S. D. Hubbard, expenses	22 50
38.	Robert Philip, wages, March	30 00

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No.	To whom and for what.	Amount.
39.	John M. True, expense allowance, April	25 00
40.	Geo. A. Schneider, daily papers	3 30
41.	A. Le Feber, oats	24 00
42.	E. A. Hartman, expenses, advertising	5 88
43.	John M. True, expenses, Milwaukee and Beloit	10 00
44.	John M. True, on April salary	47 50
45.	Florence Norton, report of convention	65 00
46.	John M. True, bal. April salary	52 50
47.	John M. True, expense allowance, May	25 00
48.	John M. True, on May salary	55 00
49.	Robert Philip, wages, April	30 00
50.	A. H. Stewart, horse	150 00
51.	John W. Groves, Secy. A. S. H. B. Assoc., herd book	3 30
52.	Frank Jirachek, harness repairs	5 30
53.	John M. True, expenses, Milwaukee	5 06
54.	Geo. G. Cox, expenses	28 75
55.	Geo. G. Cox, supplies for Philip	2 20
56.	John Barnekow, labor	35 00
57.	O. R. Cheeney, labor	18 70
58.	William Cox, labor	20 65
59.	John Miller, Jr., labor	15 75
60.	Rudolph Rodecker, labor	16 45
61.	John M. True, daily paper	1 60
62.	John M. True, bal. May salary	45 00
63.	J. B. Cusick, lumber	50 15
64.	R. F. Jones, Secy., list of horsemen	5 00
65.	Robert Phili, wages, May	40 00
66.	John M. True, expense allowance, June	25 00
67.	Greve Show Printing Co., printing advertising	610 00
68.	Taylor and Tower, lumber	42 05
69.	H. S. Tipple, merchandise	16 50
70.	William Cox, labor	29 40
71.	O. R. Cheeney, labor	29 90
72.	John Barnekow, labor	36 80
73.	L. A. Jansen, expenses	5 38
74.	A. Le Feber, oats	24 75
75.	John M. True, expenses, Milwaukee	7 14
76.	Edna Greenfield, help in office	3 00
77.	C. H. Everett, expenses	7 53
78.	Anton Emmerich, expenses	15 00
79.	C. W. Harvey, expenses	4 84
80.	J. W. Thomas, expenses	15 12
81.	George Wylie, expenses	1 44
82.	George McKerrow, expenses	12 50

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No.	To whom and for what.	Amount.
83.	Chicago Horseman, advertising stake races	55 05
84.	John M. True, paid for addressing envelopes	7 00
85.	John M. True, salary, June	100 00
86.	Western Horseman, advertising stake races	48 00
87.	Geo. G. Cox, salary, Supt. of grounds	100 00
88.	Geo. G. Cox, expenses	38 50
89.	William Cox, labor	3 50
90.	William Sheter, labor	4 00
91.	Robert Philip, wages, June	40 00
92.	Retta C. Dodge, help in office	5 00
93.	Geo. A. Schneider, daily papers	3 30
94.	A. Le Feber, oats	24 50
95.	Chas. Liebenthal, blacksmithing	35 64
96.	Priscilla Jones, work in office	5 00
97.	Wis. Bill Posting Co., payment on bill posting	50 00
98.	C. G. Wilcox, expenses	41 98
99.	J. H. Steiner, Secy., dues Am. Trotting Assoc	15 00
100.	John M. True, expense allowance, July	25 00
101.	J. H. Steiner, Secy., bal. dues Am. Trotting Assoc	35 00
102.	John M. True, expenses, Milwaukee	5 85
103.	Priscilla Jones, work in office	2 50
104.	John M. True, salary, July	100 00
105.	Priscilla Jones, work in office	8 75
106.	George McKerrow, expenses	5 10
107.	E. A. Hartman, on bill-posting	200 00
108.	Priscilla Jones, help in office	8 75
109.	John M. True, expense allowance, August	25 00
110.	George Wylie, expenses	5 75
111.	A. Le Feber, oats	16 25
112.	Clark Engraving Co., cuts of collision	10 92
113.	Bert Segrist, labor	26 34
114.	Robert Philip, wages, July	40 00
115.	J. H. Steiner, Secy. Am. Trotting Assoc. dues	25 00
116.	John M. True, expenses, Milwaukee	6 50
117.	Retta Dodge, work in o ce	1 00
118.	W. H. Smollinger, Secy., G. W. Circuit assessment	20 00
119.	Priscilla Jones, work in office	9 00
120.	Dr. S. S. Leonard, treating horse	8 00
121.	Geo. G. Cox, expenses	10 55
122.	Arthur Bergh, office work	2 50
123	John M. True, on August salary	60 00
124.	Priscilla Jones, work in office	9 00
125.	John M. True, traveling and other expenses	8 00
126.	Schwaab Stamp & Seal Co., stamps	2 00

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No.	To whom and for what.	Amount.
127.	The Whitehead & Hoag Co., badges	26 47
128.	Geo. G. Cox, salary Supt. of Grounds	100 00
129.	O. R. Cheeney, labor	35 85
130.	Fred Rodecker, labor	26 25
131.	Thos. Skinner, labor	24 50
132.	J. A. Hammer, well work	25 00
133.	S. D. Hubbard, expenses	8 70
134.	John M. True, bal. salary, August	40 00
135.	Priscilla Jones, work in office	10 00
136.	Chicago Horseman, advertising speed	84 35
137.	G. H. Goldrich, advertising	1 00
138.	Sanders Publishing Co., advertising	39 33
139.	Western Horseman, advertising speed	27 00
140.	J. W. Thomas, expenses	9 50
141.	Thos. Skinner, labor	10 50
142.	Chas. Nobles, labor	43 50
143.	Geo. Abbott, labor	26 25
144.	Anton Gimmer, labor	19 25
145.	Herb. Skinner, labor	20 45
146.	Rich & Clymer, premium ribbons	159 52
147.	Priscilla Jones, work in office	14 00
148.	George A. Pabodie, work in office	28 00
149.	John M. True, expense allowance, September	25 00
150.	John M. True, supplies	2 25
151.	W. D. Hoard Co., advertising	50 00
152.	Chicago Produce, advertising	10 00
153.	E. A. Hartman, bal. bill-posting expense	547 47
154.	Carson & Potter, payment on horse barn	150 00
155.	J. S. Connolly, payment on railroad collision	50 00
156.	Mrs. E. Verbryck, assistant, Privileges Dept	14 00
157.	J. S. Connolly, payment on railroad collision	150 00
158.	Mil. Elec. Ry. Co., ties for Connolly	18 00
159.	Harder's Band, music	90 00
160.	G. R. Howitt, clerk work	20 00
161.	H. Boone, speed winnings	35 00
161a.	K. J. Muir, judge pigeons	25 00
162.	Herman Kretschmer, judge pigeons	25 00
163.	T. B. McCauley, judge Pigeons	25 00
164.	W. N. Lovejoy, judge swine	28 50
165.	M. B. Wood, judge dairy cattle	55 00
166.	C. A. Hoffman, Treas. Baraboo Band, music	213 95
167.	E. L. Aderhold, judge cheese	20 00
168.	H. M. Johnson, music	105 00
169.	G. C. Loomis, speed winnings	311 50

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No.	To whom and for what.	Amount.
170.	H. Blome, speed winnings	60 00
171.	G. D. Fink, speed winnings	450 00
172.	T. F. McConnell, judge cattle and sheep	25 00
173.	O. D. Ames, speed winnings	200 00
174.	F. Gottstein, payment on collision act	60 00
175.	W. P. Gorsline, speed winnings	50 00
176.	Geo. Drew, speed winnings	120 00
177.	Void.	
178.	William Toole, judge flowers and plants	15 00
179.	E. W. Sherman, speed winnings	30 00
180.	J. R. Peak, payment on premiums, Dept. A	100 00
181.	John Mittelstedt, judge butter	25 00
182.	Prof. S. B. Green, judge fruit	30 30
183.	N. J. Aldrich, speed winnings	315 00
184.	F. Gottstein, payment on collision act	90 00
185	F. Gottstein, bal. on collision act	3,700 00
186.	E. Klinkert, speed winnings	105 00
187.	S. Butterfield, judge poultry	50 00
188.	R. Schade, judge art	10 00
189.	H. N. Gibson, judge beef cattle	66 60
190.	P. V. Johnson, speed winnings	270 00
191.	Mrs. Geo. Hawes, judge art	10 00
192.	Mrs. L. Esser, judge woman's work	15.00
193.	Prof. F. R. Marshall, judge horses	80 00
194.	R. A. Rouse, speed winnings	50 00
195.	Marion Conley, speed winnings	315 00
196.	J. F. Paisley, speed winnings	35 00
197.	Frutchey & McGaye	450 00
198.	J. M. True, clerk pay roll	517 50
199.	M. Guthrie, speed winnings	100 00
200.	A. B. Robinson, speed winnings	140 00
201.	T. D. Rhode, speed winnings	260 00
202.	A. J. Carr, speed winnings	30 00
203.	W. L. Houser, Supt. and assistant, Horse Dept.	64 50
204.	L. A. Jansen, Supt and Asst., pigeions	93 00
205.	R. L. Parker, Speed winnings	70 00
206.	L. P. Helm, speed winnings	315 00
207.	Ella Leonard, dining hall expenses	134 06
208.	J. O. Davidson, pay roll treasurer's Dept.	216 50
209.	O. D. Ames, speed winnings	100 00
210.	C. S. Clark, press agent	50 00
211.	J. T. Scarleton, speed winnings	195 00
212.	H. A. Briggs, Supt. Sheep Dept.	50 00
213.	N. B. Cutler, payment on premiums, Dept. D.	50 00

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No.	To whom and for what.	Amount.
214.	J. H. Bierne, payment on premiums, Dept. A.....	15 00
215.	Geo. Wylie, Supt. and assisten, Swine Dept.....	68 55
216.	Morgan Stock Farm, payment on premiums, Dept. C...	10 00
217.	C. L. De Ryder, speed winnings.....	170 00
218.	W. A. Hoyt, payment on premiums, Dept. D.....	75 00
219.	J. Crouch & Son, payment on premiums, Dept. A.....	80 00
220.	W. W. Vaughn, payment on premiums, Dept. D.....	45 00
221.	G. M. Casey, payment on premiums, Dept. B.....	100 00
222.	Chas. A. Scott, Asst. Sutp. Art.....	38 50
223.	W. Thom, work in Art Hall.....	12 00
224.	A. Two & Son, premiums, Dept. B.....	15 00
225.	A. Two & Son, returned stall rent.....	2 00
226.	L. L. Olds, judge, Dept. F.....	20 00
227.	L. G. Kellogg, Asst., Dept. H.....	15 75
228.	Brookside Farm Co., payment on premiums, Dpt. B.....	50 00
229.	C. H. Gardner, payment on premiums, Dpt. A.....	75 00
230.	T. H. Inman, payment on premiums, Dept. B.....	75 00
231.	C. N. Moody, payment on premiums, Dept. B.....	80 00
232.	H. W. Ayers, payment on premiums, Dept. B.....	32 00
233.	E. Reynolds & Son, payment on premiums, Dept. B....	75 00
234.	J. E. Robbins, payment on premiums, Dept. B.....	100 00
235.	A. Dutton & Son, payment on premiums, Dept. B.....	50 00
236.	C. H. Williams, payment on premiums, Dept. C.....	34 00
237.	Arthur Stericker, payment on premiums, Dept. A.....	30 00
238.	Wm. Zuill, payment on premiums, Dept. A.....	30 00
239.	H. N. Thompson, payment on premiums, Dept. B.....	50 00
240.	Davis Bros., payment on premiums, Dept. D.....	90 00
241.	J. L. McMuray, payment on premium, Dept. D.....	67 00
242.	J. H. & W. S. Dixon, payment on premiums, Dept. C....	13 00
243.	W. G. Bartholf, premiums, Dept. C.....	8 00
244.	E. Gumz, speed winnings.....	60 00
245.	C. W. Harvey, Supt. Poultry Dept.....	67 00
246.	David Wedgwood, pay roll, Dept. of Gates.....	339 00
247.	David Wedgwood, Supt. of Gates.....	40 00
248.	George Allen, payment on premiums, Dept. C.....	62 00
249.	R. J. Stone, payment on premiums, Dept. C.....	24 00
250.	Cole Bros., payment on premiums, Lept. C.....	26 00
251.	F. A. Huebner, Supt. Dept. of Agriculture.....	77 50
252.	G. W. Trone & Son, payment on premiums, Depts. A and B.	50 00
253.	E. G. Roberts, payment on premiums, Dept. E.....	150 00
254.	W. B. Barney & Co., payment on premiums, Dept. B...	52 00
255.	F. A. Huebner, supplies bought.....	2 94

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No	To whom and for what.	Amount.
256.	C. S. Gross & Co., meat for dining hall	76 44
257.	A. R. Ives, payment on premiums, Dept. A	20 00
258.	Robert Taylor, payment on premiums, Dept. C	75 00
259.	J. W. Adland, speed winnings	70 00
260.	T. M. Case T. M. Co., use of engine	20 00
261	Stoughton Band, music	50 00
262.	Mrs. Mary A. Webster, damages from accident	200 00
263.	Dr. F. R. Wright, medical services Mrs. Webster	25 00
264.	J. Kaulk, delivering mail	18 75
265.	Frank Brown, speed winnings	120 00
266.	Geo. Harding & Son, payment on premiums, Dept. B	400 00
267.	T. M. Magee, speed winnings	50 00
268.	F. J. Smith, speed winnings	60 00
269.	Chamberlain & Rosa, payment on premiums, Dept. B	25 00
270.	J. O. Davidson, additional ticket seller	9 00
271.	Douville Bros., merchandise	25 44
272.	Mrs. E. Hubbard, Asst., Dept. of Privileges	17 50
273.	H. B. Drake, judge, Agricultural Dept	15 00
274.	Miss M. Otto, stenographer	31 50
275.	C. H. Everett, Supt., Cattle Dept	69 50
276.	George McKerrow, paid meals for police and firemen	21 50
277.	George McKerrow, payment on premiums, Dept. C	150 00
278.	T. H. Gill, speed winnings	100 00
279.	D. McMahon, speed winnings	1,015 00
280.	F. S. Gorton, speed winnings	250 00
281.	Geo. B. Smith, speed winnings	95 00
282.	J. S. Kathan, speed winnings	450 00
283.	J. J. McCabe, speed winnings	20 00
284.	Anton Emmerich, expenses	35 00
285	Vacant	....
286.	S. D. Hubbard, Eupt. of Dept. of Privileges	70 00
287.	George McKerrow, jurchasing agent	30 00
288.	J. E. Seaver, Supt. and Assistant, Machinery Dpt	120 00
289.	Geo. G. Cox, marshal's pay roll	350 00
290.	Douville Bros., milk for dining hall	10 55
291.	C. G. Wilcox, help in Speed Dept	50 00
292.	Miss Cook, exhibition riding	50 00
293.	C. G. Wilcox, Supt. Speed Dept	45 00
294.	Chas. Woodward, flagman	8 00
295.	O. L. Glazier, watchman in office	15 00
296.	D. J. Fenelon, speed winnings	340 00
297.	C. Brill, speed winnings	20 00
298.	F. Tanner, assistance in Dairy Dept	12 00

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No.	To whom and for what.	Amount.
299.	J. W. Thomas, Supt. Dairy Dept.	56 75
300.	O. Zapel, speed winnings	150 00
301.	M. Guthrie, speed winnings	100 00
302.	J. Herbst, Supt. Dept. Horticulture	50 00
303.	J. L. Herbst, supplies bought for Dept.	15 22
304.	C. H. Ford, assistant, Dept. of Horticulture	25 00
305.	Chas. Bond, speed winnings	200 00
306.	Allie Wooster, speed winnings	60 00
307.	Allie Wooster, special riding exhibits	350 00
308.	Chas. Dean, speed winnings	500 00
309.	Jos. Clauder, music	85 00
310.	Price Co. exhibit, payment on pdemium	50 00
311.	F. E. Stone, starting judge	120 00
312.	Mrs. C. A. Scott, express paid, Dept. of Art	1 25
313.	Mrs. C. A. Scott, Supt. Art Dept.	50 00
314.	J. R. Fleming, teams	20 25
315.	C. E. Matteson, Asst. Supt., Poultry Dept.	24 50
316.	H. A. Chase, post master	12 00
317.	Miss M. E. Chadwick, Supt. and Asst., Dept. Woman's Work	96 30
318.	Thos. Buhtell, expenses, assistant treasurer	28 45
319.	Cream City Bill Posting Co., advertising	188 50
320.	M. Michells, Asst. Dairy Dept.	21 00
321.	T. Licalzi, speed winnings	95 00
322.	Carson & Potter, bal. for horse barn	820 00
323.	Carson & Potter, work and lumber	123 80
324.	B. W. Guy, merchandise, dining hall	22 45
325.	Express Co., drayage	8 00
326.	C. H. Strong, merchandise, dining hall	10 40
327.	Quin Co., blank book	90
328.	Evening Wisconsin, printing	12 50
329.	Hoffman & Billings, merchandise	3 42
330.	Riverside Printing Co., printing	32 40
331.	F. W. Schneck & Co., refrigerator	24 50
332.	J. E. Fessenden, posting bills	65
333.	Koch & Loeber Co., paper plates	1 25
334.	E. Fischer C., paper and twine	2 48
335	P. R. Hannifin Co., merchanddise	3 30
336.	T. M. E. R. & L. Co., care electric fixtures, office	1 50
337.	Ben. Franklin Printing Co., printing speed programs	20 00
338.	F. G. Arnold, Secy., assessment Ill. and Wis. circuit	25 00
339.	Horse Review Co., advertising speed	102 00
340.	Iowa Turf Pub. Co., advertising speed	29 25

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No.	To whom and for what.	Amount.
341.	Wisconsin Agriculturist, advertising	168 75
342.	Wisconsin Farmer, advertising	10 00
343	Catholic Citizen, advertising	5 00
344.	National Advance, advertising	4 00
345.	P. V. Deuster Co., advertising	8 00
346	Banner & Volksfreund Co., advertising	3 00
347.	Columbia Pub. Co., advertising	7 00
348.	John M. True, state fair expenses	4 00
349.	Evening Wisconsin, advertising	49 00
350.	Geo. G. Cox, sundry expenses at fair	17 60
351.	Fred Rodecker, labor	58 45
352.	O. R. Cheeney, labor	51 75
353.	Fred Eckert, labor	29 75
354.	Peter Engel, labor	31 50
355.	H. Skinner, labor	24 50
356.	Geo. Heop, labor	24.00
357.	Geo. Morgan, labor	14 75
358.	John Zelenka, labor	24 00
359.	Edna Philip, use of pony	10 00.
360.	D. A. Stell, labor	25 25
361.	Anton Gimmer, labor	25 35
362.	C. V. Hartell, labor	19 25
363.	Geo. Abbott, labor	8 40
364.	Chas. Nobles, labor	17 00
365.	John Barnekow, labor	96 00
366.	Emil Wiltzius, labor	92 00
367.	J. Skinner, labor	17 50
368.	Mrs. J. Skinner, chamber work	6 00
369.	R. S. Sheldon, labor	6 80
370.	Chas. Wong, labor	28 00
371.	Henry Lovi, labor	32 00
372.	Geo. Bridges, labor	22 00
373.	Geo. G. Cox, order of Geo. Bridges	12 00
374.	Walter Harris, labor	28 00
375.	Harry Harris, labor	28 00
376.	John Graham, labor	30 00
377.	Mrs. Henry Lovi, work	17 50
378.	Mrs. Mary Simmons, work	7 50
379.	Mrs. Jane Waters, work	7 50
380.	Towell Bros., advertising	16 00
381.	Mrs. S. E. Holmes, judge culinary exhibit	12 50
382.	C. H. Everett, expenses	3 00
383.	A. Le Feber, feed	25 98

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No.	To whom and for what.	Amount.
384.	Pabst Stock Farm, premiums, Dept. A	197 00
385.	H. A. Briggs, premiums, Dept. A	80 00
386.	J. Crouch & Son, bal. premiums, Dept. A	95 00
387.	McLay Bros., premiums, Dept. A	240 00
388.	August Uihlein, premiums, Dept. A	159 00
389.	J. R. Peak & Son, bal. premiums, Dept. A	308 00
390.	Progress Stud, premiums, Dept. A	89 00
391.	Thos. Edwards, premiums, Dept. A	81 00
392.	W. M. Chester, premiums, Dept. A	12 00
393.	Hans Berg, premiums, Dept. A	8 00
394.	S. Breese & Son, premiums, Dept. A	92 00
395.	Geo. Harding & Son, premiums, Dept. A	25 00
396.	G. W. Trone & Son, premiums, Dept. A	20 00
397.	A. Stericker, bal. premiums, Dept. A	27 00
398.	John Sleep, premiums, Dept. A	71 00
399.	W. F. Pilgrim, premiums, Dept. A	20 00
400.	Geo. McKerrow & Sons, premiums, Dept. A	50 00
401.	William Zuill, bal. premiums, Dept. A	25 00
402.	J. R. Love, premiums. Dept. A	9 00
403.	Geo. Chapman, premiums, Dept. A	25 00
404.	Murphy Bros., premiums, Dept. A	15 00
405.	Daniel Lee, premiums, Dept. A	40 00
406.	Thomas Sanders, premiums, Dept. A	17 00
407.	J. H. Sleep, premiums, Dept. A	5 00
408.	G. M. Casey, bal. premiums, Dept. B	135 50
409.	E. M. Bowen, premiums, Dept. B	120 00
410.	H. N. Thompson, bal. premiums, Dept. B	80 00
411.	E. Reynolds & Son, bal. premiums, Dept. B	70 00
412.	C. H. Gardner, bal. premiums, Dept. B	105 00
413.	C. N. Moody, bal. premiums, Dept. B	89 00
414.	Brookside Farm Co., premiums, Dept. B	48 00
415.	Chas. Solveson, premiums, Dept. B	10 00
416.	J. J. Chambers, premiums, Dept. B	143 00
417.	J. H. Beirne, bal. premiums, Dept. B	178 00
418.	M. D. Cunningham, premiums, Dept. B	100 00
419.	W. B. Barney & Co., bal. premiums, Dept. B	50 00
420.	J. B. Irwin, premiums, Dept B	150 00
421.	Rust Bros., premiums, Dept. B	15 00
422.	J. E. Robbins, bal. premiums, Dept. B	84 00
423.	E. A. Smith, premiums, Dept. B	38 00
424.	Geo. A. Buckstaff, premiums, Dept. B	25 00
425.	A. Dutton & Son, bal. premiums, Dept. B	56 00
426.	T. H. Inman, bal. premiums, Dept. B	119 00

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No.	To whom and for what.	Amount.
427.	W. W. Ayers, bal. premiums, Dept. B.	28 00
428.	C. G. Wilcox, expenses	62.19
429.	G. Howard Davidson, premiums, Dept. C.	88 00
430.	R. J. Stone, bal. premiums, Dept. C.	24 00
431.	Geo. Allen, bal. premiums, Dept. C.	44 00
432.	Robert Taylor, bal. premiums, Dept. C.	58 00
433.	Geo. McKerrow & Sons, bal. premiums, Dept. C.	32 00
434.	Morgan Stock Farm, bal. premiums, Dept. C.	10 00
435.	Cole Bros., bal. premiums, Dept. C.	20 00
436.	H. E. Moore, premiums, Dept. C.	152 00
437.	F. N. Turner, premiums, Dept. C.	3 00
438.	D. H. Syme, premiums, Dept. C.	33 00
439.	Davis Bros., bal. premiums, Dept. D.	86 00
440.	H. P. West, premiums, Dept. D.	144 00
441.	L. P. Martiny, premiums, Dept. D.	100 00
442.	Kelly Bros., premiums, Dept. D.	152 00
443.	N. B. Cutler, bal. premiums, Dept. D.	38 00
444.	J. L. McMurray, bal. premiums, Dept. D.	50 00
445.	W. W. Vaughn, bal. premiums, Dept. D.	41 00
446.	Wm. Nisbet, premiums, Dept. D.	12 00
447.	W. C. Waite, premiums, Dept. D.	68 00
448.	A. Selle, premiums, Dept. D.	5 00
449.	G. W. Trone & Son, bal. premiums, Dept. D.	21 00
450.	C. H. Williams, bal. premiums, Dept. D.	29 00
451.	M. W. Reed, premiums, Dept. D.	164 00
452.	Dorsey Bros., premiums, Dept. D.	136 00
453.	M. T. Allen, railroad fare	3 64
454.	F. Jirachek, harness repairs	4 15
455.	Robert Philip, wages, August	40 00
456.	Cusick, Jacobson & Baldwin, lumber	51 77
457.	Meyer, Rotier Printing Co., badges, 1900	2 60
458.	News Pub. Co., advertising	73 50
459.	H. C. Boers, premiums, Dept. E.	21 00
460.	J. W. Campbell, premiums, Dept. E.	18 00
461.	C. F. Chamberlain, premiums, Dept. E.	16 00
462.	D. B. Dobrogowski, premiums, Dept. E.	25 00
463.	J. J. De Guenther, premiums, Dept. E.	2 00
464.	George Ewald, premiums, Dept. E.	115 50
465.	A. M. Fiebrantz, premiums, Dept. E.	7 00
466.	Frank Gerozewik, premiums, Dept. E.	1 50
467.	M. Gruno, premiums, Dept. E.	1 00
468.	Robt. Guentzel, premiums, Dept. E.	5 00
469.	J. Haisler, premiums, Dept. E.	5 00

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No.	To whom and for what.	Amount.
470.	W. J. Harper, premiums, Dept. E.	5 00
471.	Chas. Jensch, premiums, Dept. E.	12 00
47?	Joerndt Bros., premiums, Dept. E.	16 00
473.	Void.	
474.	Johnson & Schmidt, premiums, Dept. E.	7 50
475.	D. H. Jenkins, premiums, Dept. E.	8 00
476.	M. Keipper, premiums, Dept. E.	12 00
477.	A. T. Keipper, premiums, Dept. E.	14 50
478.	J. A. Koenig, premiums, Dept. E.	8 00
479.	Wm. Korb, premiums, Dept. E.	27 00
480.	M. Marshmeer, premiums, Dept. E.	10 00
481.	F. Macko, premiums, Dept. E.	12 00
482.	Pasbrig & stewart, premiums, Dept. E.	55 50
483.	Geo. L. Stocker, premiums, Dept. E.	3 00
484.	Sunnyside Lofts, premiums, Dept. E.	3 75
485.	Carl Steinman, premiums, Dept. E.	1 00
486.	H. Vanselow, premiums, Dept. E.	56 50
487.	H. Woods, premiums, Dept. E.	2 50
488.	Wagner Bros., premiums, Dept. E.	18 00
489.	T. Williamson, premiums, Dept. E.	7 00
490.	C. Williamson, premiums, Dept. E.	30 00
491.	N. B. Cutler, premium, Dept. E.	1 50
492.	John Conrad, premiums, Dept. E.	2 50
493.	Curtis & Wehr, premiums, Dept. E.	3 50
494.	George Ccoke, premiums, Dept. E.	11 00
495.	John Donovan, premiums, Dept. E.	9 00
496.	W. H. Eggebrecht, premiums, Dept. E.	6 00
497.	Chas. Eckstein, premiums, Dept. E.	23 50
498.	A. A. Fenn & Co., premiums, Dept. E.	16 50
499.	Greenwald Bros., premiums, Dept. E.	4 50
500.	L. P. Gillon, premiums, Dept. E.	5 50
501.	W. G. Gallagher, premiums, Dept. E.	7 50
502.	H. Gueratz, premiums, Dept. E.	9 50
503.	Gred Goetz, premiums, Dept. E.	6 50
504.	Josephine Griffith, premiums, Dept. E.	5 50
505.	Mrs. N. F. Grimshaw, premiums, Dept. E.	5 00
506	J. G. Hickox, premiums, Dept. E.	1 50
507.	Arthur Julien, premiums, Dept. E.	5 00
508	Kasten Bros., premiums, Dept. E.	7 00
509.	Otto L. Kuehn, premiums, Dept. E.	5 50
510.	C. H. Kuehn, premiums, Dept. E.	4 00
511.	Hubert Karl, premiums, Dept. E.	1 50
512.	Krause Bros., premiums, Dept. E.	2 50

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No.	To whom and for what.	Amount.
513.	J. R. Love, premiums, Dept. E	14 00
514.	H. P. West, premiums, Dept. E	21 30
515.	Chas. Poppenheimer, premiums, Dept. E	10 50
516.	Frank Rader, premiums, Dept. E	3 00
517.	S. S. Rich, premiums, Dept. E	11 50
518.	E. G. Roberts, bal. premiums, Dept. E	110 20
519.	J. E. Schultz, premiums, Dept. E	14 50
520.	E. R. Suender, premiums, Dept. E	13 00
521.	L. H. Waisner, premiums, Dept. E	4 00
522.	Oriole Springs Farm, premiums, Dept E	7 00
523.	A. W. Whitcomb, premiums, Dept. E	2 50
524.	Jas. Wunsch, premiums, Dept. E	3 00
525.	G. H. Wright, premiums, Dept. E	2 50
526.	J. O. Davidson, expenses	20 00
527.	John Grape, premiums, Dept. F	43 00
528.	J. H. Pilgrim, premiums, Dept. F	50 00
529.	H. P. West, premiums, Dept. F	52 00
530.	W. F. Pilgrim, premiums, Dept. F	34 00
531.	J. Haus, premiums, Dept. F	24 00
532.	Mark West, premiums, Dept. F	16 00
533.	Mrs. B. C. Ingersoll, premiums, Dept. F	38 00
534.	Caspar Olson, premiums, Dept. F	30 00
535.	Kelly Bros., premiums, Dept. F	20 00
536.	Sheldon & stiles, premiums, Dept. F	6 00
537.	J. R. Love, premiums, Dept. F	4 00
538.	E. L. Benedict, premiums, Dept. F	9 00
539.	Industrial School for Girls, premiums, Dept. F	5 00
540.	G. A. Andreae (for Price co.), bal. premium, Dept. F	85 00
541.	L. G. Ramm (for Taylor Co.), premium, Dept. F	120 00
542.	Grape & Ingersoll (for Waukesha Co.), prem., Dept. F.	115 00
543.	H. P. West (for Walworth Co.) premium, Dept. F	110 00
544.	C. S. Garrett (for Barren Co.), premium, Dept. F	90 00
545.	E. L. Benedict (for Rock Co.), premium in Dept. F	75 00
546.	L. M. Nash (for Wood Co.), premium, Dept. F	70 00
547.	G. E. Reynolds (for Adams Co.), premium, Dept. F	70 00
548.	Kelly Bros. (for Iowa Co.), premium, Dept. F	65 00
549.	J. Haus (for Jefferson Co.), premium, Dept. F	60 00
550.	W. S. Manning (for Gates Co.), premium, Dept. F	60 00
551.	Supt. Keickhefer (for Milwaukee Co.) premium, Dept. F.	30 00
552.	J. J. cOhsner, premiums, Lept. F	18 00
553.	E. D. Ochsner, premiums, Dept. F	13 00
554.	Mrs. Robert Ramsey, premiums, Dept. F	10 00
555.	A. L. Kleeber, premiums, Dept. F	52 50

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No.	To whom and for what.	Amount.
556.	Mrs. T. P. Leonard, premiums, Dept. F.	4 00
557.	Miss Pearl Bell, premiums, Dept. F.	16 00
558.	Mrs. Robt. Ramsey, premiums, Depts. F. and H.	89 50
559.	Mrs. Susie Abert, premiums, Dept. F.	6 00
560.	Mrs. L. Yanke, premiums, Dept. F.	31 00
561.	Miss Caroline Schmasow, premiums, Dept. F.	6 00
562.	Mrs. Wm. Sweeney, premiums, Dept. F.	3 00
563.	Ella Leonard, premiums, Dept. F.	20 00
564.	Mrs. E. Kingsbury, premiums, Dept. F.	1 00
565.	Mrs. E. Granger, premiums, Dept. F.	18 50
566.	Mrs. W. P. Wegner, premiums, Dept. F.	4 00
567.	Mrs. Geoe. Hambach, premiums, Dept. F.	1 00
568.	Alice Le Feber, premiums, Dept. F.	7 00
569.	Clara Moyer, premiums, Dept. F.	2 00
570.	Julia Bader, premiums, Dept. F.	1 00
571.	Mrs. B. C. Ingersoll, premiums, Dept. F.	35 00
572.	Mrs. G. B. Smith, premiums, Dept. F.	6 00
573.	Mrs. J. Haus, premiums, Dept. F.	13 00
574.	Mrs. Theo. L. Newton, premiums, Dept. F.	8 00
575.	Mrs. Geo. Bond, premiums, Dept. F.	1 00
576.	Geo. Jeffery, premiums, Dept. H.	32 50
577.	Henry Schuster, premiums, Dept. H.	36 00
578.	F. H. Chappel, premiums, Dept. H.	39 00
579.	Chas. Hirschinger, premiums, Dept. H.	46 50
580.	A. D. Barnes, premiums, Dept. H.	13 50
581.	Kelly Bros., premiums, Dept. H.	12 50
582.	J. L. Schultz, preemiums, Dept. H.	22 00
583.	W. S. Hager, premiums, Dept. H.	1 00
584.	J. S. Palmer, premiums, Dept. H.	38 00
585.	W. J. Moyle, premiums, Dept. H.	7 50
586.	William Fox, premiums, Dept. H.	98 00
587.	Alex. Klockner, premiums, Dept. H.	25 00
588.	John Grape, premiums, Dept. H.	27 00
589.	J. S. Ringrose, premiums, Dept. H.	1 00
590.	J. M. Dunlap, premiums, Dept. H.	78 00
591.	Pauline Jeske, premiums, Dept. H.	24 00
592.	Mrs. J. J. Hannan, premiums, Dept. H.	9 00
593.	Mrs. L. W. Barnes, premiums, Dept. H.	28 50
594.	Milwaukee Sentinel, adertising	123 00
595.	E. S. Burwell, judge, cattle	20 00
596.	H. S. Tipple, merchandise	93 59
597.	H. W. Barnitz, premiums, Dept. K.	56 00

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No.	To whom and for what.	Amount.
598.	J. M. Chenoweth, premiums, Dept. K.	44 00
599.	Minnie Akass, premiums, Dept. K.	47 50
600.	Mrs. A. E. Pierce, premiums Dept. K.	37 00
601.	Adeline B. Bellman, premiums, Dept. K.	5 00
602.	Miss A. W. Bankes, premiums, Dept. K.	16 00
603.	Mrs. L. M. Buell, premiums, Dept. K.	29 00
604.	Irma Heller, premiums, Dept. K.	17 00
605.	Mrs. W. W. Lloyd, premiums, Dept. K.	30 00
606.	Mrs. G. K. Wainwright, premiums, Dept. K.	13 50
607.	Mrs. O. Pratt, premiums, Dept. K.	10 00
608.	L. M. Churbuch, premiums, Dept. K.	20 00
609.	Joe L. Frank, premiums, Dept. K.	18 00
610.	Grace B. Ricker, premiums, Dept. K.	11 00
611.	Mrs. J. Holt, premiums, Dept. K.	29 00
612.	Joseph Kallaus, premiums, Dept. K.	34 00
613.	Wanda Buetow, premiums, Dept. K.	16 00
614.	Lucille Cooke, premiums, Dept. K.	4 00
615.	Caroline Starkey, premiums, Dept. K.	8 00
616.	Miss E. E. Gibson, premiums, Dept. K.	3 00
617.	Luella Cooke, premiums, Dept. K.	3 00
618.	Mrs. W. E. Kingsbury, premiums, Dept. K.	5 00
619.	Clara Kellogg, premiums, Dept. K.	17 00
620.	Adeline B. Bellman, premiums, Dept. K.	7 00
621.	F. A. Smith, premiums, Dept. K.	1 00
622.	Mrs. P. Rood, premiums, Dept. L.	8 00
623.	Mrs. A. Kingsbury, premiums, Dept. L.	18 00
624.	Mrs. Hy. Fischer, premiums, Dept. L.	20 00
625.	Meta L. Baker, premiums, Dept. L.	20 00
626.	Tena Formader, premiums, Dept. L.	16 00
627.	Mrs. G. Rood, premiums, Dept. L.	16 00
628	Mrs. G. L. Cameron, premiums, Dept. L.	3 00
629.	Mrs. J. Nicholson, premiums, Dept. L.	27 00
630.	Caroline Schmasow, premiums, Dept. L.	10 00
631.	Annie Henstedt, premiums, Dept. L.	1 00
632.	Mrs. Susie Abert, premiums, Dept. L.	12 00
633.	Ann Helberg, premiums, Dept. L.	3 00
634	Mrs. L. W. Barnes, premiums, Dept. L.	1 00
635.	Viola Abert, premiums, Dept. L.	7 00
636.	Ella Leeonard, premiums, Dept. L.	1 00
637.	Amanda Bissman, premiums, Dept. L.	16 00
638.	A. C. Tuthill, premiums, Dept. L.	26 00
639.	S. A. Stockwell, premiums, Dept. L.	4 00

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No.	To whom and for what.	Amount.
640.	Mrs. W. F. Pilgrim, premiums Dept. L	9 00
641.	Mrs. J. C. Price premiums, Dept. L	10 00
642.	Mrs. L. C. Huckstep, premiums, Dept. L	6 00
643.	Alice Le Feber, premiums, Dept. L	2 00
644.	Clara M. Moyer, premiums, Dept. L	3 00
645.	Mrs. A. Gulick, premiums, Dept. L	3 00
646.	Ida Bading, premiums, Dept. L	1 00
647.	Mrs. Wm. Sweeney, premiums, Dept. L	1 00
648.	Mrs. Mary E. Warren, premiums, Dept. L	5 00
649.	Mrs. L. Yanke, premiums, Dept. L	1 00
650.	Miss E. Schloemer, premiums, Dept. L	1 00
651.	Mattie Hall, premiums, Dept. L	9 00
652.	Elizabeth Talbert, premiums, Dept. L	8 00
653.	Edna Stoppenbach, premiums, Dept. L	12 00
654.	Natalie Kellogg, premiums, Dept. L	7 00
655.	Mary E. Pease, premiums, Dept. L	3 00
656.	Anna Binner, premiums, Dept. L	5 00
657.	Geo. Olson, premiums, Dept. L	9 00
658.	J. H. Steiner, Secy., collected suspensions	52 25
659.	H. E. Aldrich, premiums, Dept. G	14 20
660.	G. W. Allen, premiums, Dept. G	2 52
661	F. Blumenstein, premiums, Dept. G	5 56
662.	J. Bornheimer, premiums, Dept. G	3 78
663.	Joseph Bast, premiums, Dept. G	2 52
664.	H. Burkholtz, premiums, Dept. G	2 52
665.	R. P. Bjerregaard, premiums Dept. G	5 88
666.	B. G. Bursch, premiums, Dept. G	5 04
667.	J. E. Boettcher, premiums, Dept. G	3 36
668.	Frank Bowar, premiums, Dept. G	3 36
669.	J. F. Brady, premiums, Dept. G	3 36
670	Henry Bast, premiums, Dept. G	
671.	Burwood Stock Farm, premiums, Dept. G	15 00
672.	C. J. Chapin, premiums, Dept. G	3 78
673.	T. Cornelinson, premiums, Dept. G	5 88
674.	A. Carswell, premiums, Dept. G	3 36
675.	C. H. Christianson, premiums, Dept. G	84
676.	Mrs. E. J. Czamanske, premiums, Dept. G	8 50
677.	Mrs. T. W. Curtis, premiums, Dept. G	7 59
678.	W. H. Caflisch, premiums, Dept. G	9 15
679.	A. L. Coville, premiums, Dept. G	3 93
680.	M. D. Cunningham, premiums, Dept. G	8 00
681.	H. Donner, premiums, Dept. G	2 52

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No.	To whom and for what.	Amount.
682.	A. H. Dowe, premiums, Dept. G	84
683.	A. L. Duxbury, premiums, Dept. G	1 68
684.	A. Erickson, premiums, Dept. G	5 04
685.	B. J. Ellis, premiums, Dept. G	2 94
686.	Ole Esker, premiums, Dept. G	4 62
687.	E. W. Fischer, premiums, Dept. G	5 50
688.	G. Glaus, premiums, Dept. G	3 36
689.	H. B. Howland, premiums, Dept. G	1 68
690.	W. B. Hoare, premiums, Dept. G	1 68
691.	H. B. Hoiberg, premiums, Dept. G	5 04
692.	B. F. Holbrook, premiums, Dept. G	6 72
693.	S. Hoiberg, premiums, Dept. G	5 04
694.	A. B. Hoyt, premiums, Dept. G	4 35
695.	H. Henricksen, premiums, Dept. G	2 94
696.	F. W. Huth, premiums, Dept. G	3 36
697.	W. J. Hyne, premiums, Dept. G	5 61
698.	C. B. Hubbard, premiums, Dept. G	5 88
699.	R. Holcomb, premiums, Dept. G	18 40
700.	F. Imme, premiums, Dept. G	3 36
701.	W. Judevine, premiums, Dept. G	5 37
702.	J. E. Jones, premiums, Dept. G	1 68
703.	F. Jaquith, premiums, Dept. G	5 79
704.	G. E. Jordan, premiums, Dept. G	5 14
705.	J. Jensen, premiums, Dept. G	2 52
706.	O. A. Kielsmeier, premiums, Dept. G	6 42
707.	F. H. Kelling, premiums, Dept. G	3 78
708.	R. Kinney, premiums, Dept. G	2 54
709.	M. G. Koepsell, premiums, Dept. G	4 20
710.	G. M. Kates, premiums, Dept. G	6 68
711.	G. Kruempel, premiums, Dept. G	84
712.	J. E. Klokker, premiums, Dept. G	5 04
713.	E. B. Melendy, premiums, Dept. G	5 04
714.	H. Moats, premiums, Dept. G	2 52
715.	E. C. McCormick, premiums, Dept. G	5 04
716.	H. A. Milius, premiums, Dept. G	1 68
717.	F. E. McCormick, premiums, Dept. G	4 20
718.	M. B. Matteson, premiums, Dept. G	2 52
719.	G. G. McIntyre, premiums, Dept. G	4 62
720.	W. E. Miller, premiums, Dept. G	5 04
721.	Murphy Bros., premiums, Dept. G	7 50
722.	A. C. Nelson, premiums, Dept. G	4 62

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No.	To whom and for what.	Amount.
723.	O. Otterson, premiums, Dept. G	5 88
724.	T. O'Neill, premiums, Dept. G	7 75
725.	Pewaukee Creamery Co., premiums, Dept. G	12 97
726.	Max Proctor, premiums, Dept. G	84
727.	C. Paulson, premiums, Dept. G	4 20
728.	E. A. Paddock, premiums, Dept. G	5 04
729.	C. T. Ruedebusch, premiums, Dept. G	9 20
730.	Robert Bros., premiums, Dept. G	3 78
731.	Sheldon & Stiles, premiums, Dept. G	5 12
732.	A. F. Strebe, premiums, Dept. G	5 12
733.	D. T. Sullivan, premiums, Dept. G	6 72
734.	Mrs. A. P. Stafford, premiums, Dept. G	5 50
735.	John Sollie, premiums, Dept. G	5 85
736.	C. A. Squire, premiums, Dept. G	4 62
737.	Mrs. Wm. Sweeney, premiums, Dept. G	20 70
738.	E. Samzelius, premiums, Dept. G	5 04
739.	A. C. Steinhauer, premiums, Dept. G	2 94
740.	W. A. Stewart, premiums, Dept. G	5 04
741.	Silver Springs Creamery Co., premiums, Dept. G	5 07
742.	A. H. Strebe, premiums, Dept. G	2 52
743.	A. E. Thompson, premiums, Dept. G	3 36
744.	Mrs. A. L. Tenney, premiums, Dept. G	25 07
745.	W. E. Tucker, premiums, Dept. G	3 78
746.	W. A. Voigt, premiums, Dept. G	84
747.	John Wunsch, premiums, Dept. G	4 20
748.	J. W. Webber, premiums, Dept. G	5 88
749.	J. F. Weber, premiums, Dept. G	4 20
750.	W. E. Wright, premiums, Dept. G	8 00
751.	E. H. Weber, premiums, Dept. G	3 36
752.	G. H. Weber, premiums, Dept. G	1 68
753.	B. Weber, premiums, Dept. G	3 36
754	M. O. Wheelock, premiums, Dept. G	4 20
755	F. Wuethuch, premiums, Dept. G	42
756.	H. Anderson, premiums, Dept. G	1 12
757.	J. G. Aune, premiums, Dept. G	3 78
758.	C. F. Brinkman, premiums, Dept. G	8 42
759.	A. Benishek, premiums, Dept. G	4 62
760.	J. Baehler, premiums, Dept. G	5 62
761.	J. F. Bachman, premiums, Dept. G	21 01
762.	H. Belgrien, premiums, Dept. G	10 11
763.	S. Baehler, premiums, Dept. G	6 74
764.	C. W. Baetz, premiums, Dept. G	4 83

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No.	To whom and for what.	Amount.
765.	Julius Berg, premiums, Dept. G	5 88
766.	John Cannon, premiums, Dept. G	9 68
767.	J. Chalupuik, premiums, Dept. G	5 60
768.	C. B. Cornelius, premiums, Dept. G	8 40
769.	R. Conrad, premiums, Dept. G	7 55
770.	S. D. Cannon, premiums, Dept. G	5 31
771.	C. H. Cox, premiums, Dept. G	9 52
772.	R. B. Cartwright, premiums, Dept. G	7 56
773.	M. G. Douma, premiums, Dept. G	9 20
774.	W. Emerson, premiums, Dept. G	10 14
775.	R. C. Ganschow, premiums, Dept. G	11 23
776.	H. F. Ganschow, premiums, Dept. G	2 94
777.	F. A. Gaedke, premiums, Dept. G	18
778.	L. Guth & Co., premiums, Dept. G	6 74
779.	Gentilly Dairy Assoc., premiums, Dept. G	5 88
780.	W. S. Graskamp, premiums, Dept. G	3 78
781.	A. E. Helmer, premiums, Dept. G	11 35
782.	Fred Hedler, premiums, Dept. G	4 20
783.	J. R. Hernske, premiums, Dept. G	8 14
784.	Geo. Horneck, premiums, Dept. G	7 56
785.	J. H. Hoeppner, premiums, Dept. G	7 56
786.	P. H. Kasper, premiums, Dept. G	3 54
787.	E. J. Keyes, premiums, Dept. G	7 35
788.	O. A. Kielsmeier, premiums, Dept. G	10 81
789.	E. E. Lindner, premiums, Dept. G	5 88
790.	La Crosse Butter & Cheese Co., premiums, Dept. G	8 40
791.	C. B. Moore, premiums, Dept. G	4 55
792.	F. J. Mulvey, premiums, Dept. G	5 25
793.	M. E. Kinney, premiums, Dept. G	2 94
794.	M. McKennon, premiums, Dept. G	1 19
795.	H. Nisbet, premiums, Dept. G	5 05
796.	John Nelson, premiums, Dept. G	4 41
797.	P. H. Peacock, premiums, Dept. G	6 51
798.	A. W. Parkin, premiums, Dept. G	4 41
799.	H. S. Paul, premiums, Dept. G	4 72
800.	John Ryff, Jr., premiums, Dept. G	6 24
801.	J. J. Reid, premiums, Dept. G	5 36
802.	H. M. Scott, premiums, Dept. G	1 12
803.	Albert Schmidt, premiums, Dept. G	2 10
804.	Stauffacher & Roth, premiums, Dept. G	15 00
805.	H. B. Stanz, premiums, Dept. G	15 60
806.	J. A. Shafer, premiums, Dept. G	4 83

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No.	To whom and for what.	Amount.
807.	John Snyder, premiums, Dept. G	84
808.	N. Simon Co., premiums, Dept. G	9 98
809.	J. D. Schmitz, premiums, Dept. G	8 40
810.	E. Thompson, premiums, Dept. G	1 77
811.	Samuel Uglow, premiums, Dept. G	2 52
812.	D. Van Attmen, premiums, Dept. G	3 78
813.	Gottlieb Vogel, premiums, Dept. G	5 90
814.	F. A. Viergutz, premiums, Dept. G	6 72
815.	L. F. Voight, premiums, Dept. G	3 29
816.	John Vogt, premiums, Dept. G	10 52
817.	Joe Vogt, premiums, Dept. G	12 70
818.	Emil Widder, premiums, Dept. G	1 12
819.	W. S. Walsh, premiums, Dept. G	5 88
820.	Chas. Westcott, premiums, Dept. G	3 25
821.	Ed. Wunsch, premiums, Dept. G	6 97
822.	W. Zwicky, premiums, Dept. G	7 21
823.	Geo. Harding & Son, premiums, Depts. B. & C	177 00
824.	Ant. Novak, advertising	4 00
825.	H. G. Neal, rent of tent	127 45
826.	Vacant	.. ..
827.	John Miller, labor	6 00
828.	The Journal Co., advertising	73 50
829.	Wis. Telephone Co., messages	7 91
830.	Free Press, advertising	80 00
831.	Excelsior Pub. Co., advertising	5 00
832.	Geo. A. Pabodie, clerk work	21 00
833	Dora Weber, clerk work	21 00
834.	Priscilla Jones, clerk work	21 00
835.	John M. True, sundry office expenses	7 50
836.	John M. True, salary, September	100 00
837.	J. E. Robbins, bal. premiums, Dept. B	20 00
838.	Frank Wilcox, judge, Dept. F	8 00
839.	F. A. Huebner, expenses	5 57
840.	Herold Co., advertising	70 80
841.	McLay Bros., returned stall rent	1 00
842.	Geo. McKerrow, bal. premiums, Dept. B	23 00
843.	John Grape, bal. premiums, Dept. F	23 00
844.	Casper Olson, premiums, Dept. F	12 00
845.	Mrs. B. C. Ingersoll, bal. premiums, Dept. F	13 00
846.	E. A. Smith, bal. premiums, Dept. B	15 00
847.	Mary E. Pease, bal. premiums, Dept. F	2 00
848.	Lake Shore Stone Co., crushed rock	337 26

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No.	To whom and for what.	Amount.
849.	T. M. E. R. & L. Co., electric light	9 12
850.	H. G. Hess, rent, time announcer	6 19
851.	Taylor & Tower, lumber	151 46
852.	J. H. Steiner, Cecy., fines	45 00
853.	H. S. Weil, extra clerk work	15 35
854.	John M. True, expenses Milwaukee and Janesville	12 00
855.	John Le Feber, cartage	9 50
856.	Correction order No. 494	1 00
857.	Robt. Taylor, bal. premiums, Dept. C	2 00
858.	Geo. H. Wright, bal. premiums, Dept. E	1 00
859.	Mrs. Edw. Granger, bal. premiums, Dept. F	1 00
860.	E. L. Benedict, bal. premiums, Dept. F	1 00
861.	C. M. Sweenie, premiums, Dept. E	3 25
862.	Russell & Minor, advertising	25 00
863	Germania Pub. Co., advertising	44 00
864.	uKryer Pub. Co., advertising	36 00
865.	A. Le Feber, coal and shavings	69 28
866.	G. A. Ellis, damage from horses	5 00
867.	Frank Atkin, advertising	4 00
868.	C. W. Harvey, expenses	6 58
869.	E. A. Hartman, advertising Mich. and inspection	50 00
870.	Geo. G. Cox, salary, Supt. of grounds	100 00
871.	Robert Philip, wages, Sept	40 00
872.	Geo. Harding & Son, bal. premiums, Dept. B	108 00
873.	Chamberlin & Rosa, bal. premiums, Dept. B	134 00
874.	A. H. Krouskop, bal. premiums, Dept. B	96 00
875.	E. D. Jones & Son, premiums, Dept. B	15 50
876.	H. B. Drake, premiums, Dept. B	72 00
877.	G. W. H. Hall, premiums, Dept. B	10 00
878.	Daniel Lee, premiums, Dept. B	20 00
879.	G. W. Smith, premiums, Dept. B	10 00
880.	Mrs. Robert Ramsey, bal. premiums, Dept. F	2 00
881.	G. Glaus, returned entry fee	2 00
882.	F. W. Huth, correction former order	1 00
883.	M. C. Bergh, expenses, Asst. Treas	10 44
884.	P. R. Hannifin Co., merchandise	1 50
885.	John M. True, expense allowance, Oct	25 00
886.	W. U. Telegraph Co., messages, Milwaukee	1 02
887.	A. Le Feber, oats	41 00
888.	A. Simonson, photographs	10 00
889.	Disinfectant Co., merchandise	1 50
890.	H. Schutte, music	125 00

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No.	To whom and for what.	Amount.
891.	O. R. Cheeney, labor	25 35
892.	Fred Rodecker, labor	24 50
893.	Chas. Liebenthal, blacksmithing	24 78
894.	National Advance, advertising	4 00
896.	John Le Feber, bal. for feed in Forage Dept.	49 73
897.	John Nelson, premiums, Dept. G	7 86
898.	John M. True, sundry expenses	2 36
899.	J. E. Keane, Agt., freight and express	1 56
900.	Polish Pub. Co., advertising	13 25
901.	John M. True, on Oct. salary	50 00
902.	John M. True, bal. Oct. salary	50 00
903.	Lake Shore Stone Co., crushed rock	186 38
904.	Geo. Wylie, expenses	1 75
905.	S. D. Hubbard, expenses	15 00
906.	Geo. G. Cox, expenses	8 00
907.	Anton Emmerich, expenses	16 50
908.	Void.	.. ..
909.	Geo. G. Cox, sundry bills paid	24 59
910.	Geo. G. Cox, bal. salary, Supt. of grounds	39 95
911.	C. H. Everett, expenses	8 10
912.	C. W. Harvey, expenses	6 22
913.	J. W. Thomas, expenses	14 90
914.	John M. True, expenses, Milwaukee	8 44
915.	A. G. Tuttle, special premium on Russian apples	10 00
916.	Robert Taylor, special premium on sheep	26 50
917.	Dr. Roberts Stock Food Co., spec. prem. on sheep	43 50
918.	John M. True, expenses, Janesville	4 00
919.	Wis. Lakes Ice Co., ice at fair	22 59
920.	Gallagher Tent & Awning Co., rent of tent	25 00
921.	L. A. Jansen, expenses in pigeon exhibit	7 00
922.	L. A. Jansen, services promoting pigeon exhibit	55 00
923.	Robert Philip, wages, Oct.	40 00
924.	John M. True, expense allowance, Nov.	25 00
925.	Gazette Printing Co., advertising	5 00
926.	Frank Jirachek, harness repairs	4 00
927.	A. Le Feber, merchandise	35
928.	J. W. Bailey, returned speed entry money	17 50
929.	Victor L. Berger, advertising	4 00
930.	John M. True, salary, Nov.	100 00
931.	Wis. Telephone Co., message to Milwaukee	35
932.	Wisconsin Telephone Co., messages at fair (refunded)	7 91
933.	Robert Philip, wages, Nov.	30 00

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No.	To whom and for what.	Amount.
934.	John M. True, expense allowance, Dec	25 00
935.	Fethers, Jeffris & Mouat, attorney fees	25 00
936.	John M. True, expenses, Chicago, Fair Assoc. meeting	14 00
937.	A. Le Feber, oats	18 00
938.	C. W. Harvey, expenses, Chicago, Fair Assoc. meeting	9 00
939.	Geo. Wylie, expenses, Chicago, Fair Assoc. meeting	11 10
940.	Geo. McKerrow, expenses	2 50
941.	John M. True, salary, Dec.	100 00
942.	Robert Philip, wages, Dec	30 00
943.	Geo. Harding & Son, bal. premiums, Dept. B	3 00
		$41,388 12

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AWARD OF PREMIUMS AT STATE FAIR, 1902.

HORSES.

Judge—Prof. F. R. MARSHALL, Ames, Iowa.

PERCHERON AND FRENCH DRAFT.

Stallion, 4 years old or over.

First .....H. A. Briggs, Elkhorn.
Second .....Pabst Stock Farm, Milwaukee.
Third .....J. Crouch & Son, La Fayette, Ind.

Stallion, 3 years and under 4.

First .....J. Crouch & Son.
Second .....H. A. Briggs.
Third .....H. A. Briggs.

Stallion, 2 years and under 3.

First .....J. Crouch & Son.
Second .....H. A. Briggs.
Third .....H. A. Briggs.

Stallion, one year and under 2.

First .....H. A. Briggs.
Second .....H. A. Briggs.

Mare, 4 years or over, and foal at foot.

First .....Pabst Stock Farm.

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Mare, 4 years or over.

First ..... Pabst Stock Farm.
Second ..... Pabst Stock Farm.

Mare, 3 years and under 4.

First ..... Pabst Stock Farm.
Second ..... Pabst Stock Farm.
Third ..... Pabst Stock Farm.

Mare, 2 years and under 3.

First ..... Pabst Stock Farm.
Second ..... Pabst Stock Farm.
Third ..... Pabst Stock Farm.

Mare, one year and under 2.

First ..... Pabst Stock Farm.
Second ..... Pabst Stock Farm.
Third ..... Pabst Stock Farm.

Stallion or filly foal.

First ..... Pabst Stock Farm.
Second ..... Pabst Stock Farm.
Third ..... Pabst Stock Farm.

Four animals under 4 years, the get of one sire.

First ..... Pabst Stock Farm.

Two animals under 4 years, the produce of one mare.

First ..... Pabst Stock Farm.

CLYDESDALE AND ENGLISH SHIRE.

Stallion, 4 years old or over.

First ..... McLay Bros., Janesville.

Stallion, 3 years and under 4.

First ..... McLay Bros.
Second ..... McLay Bros.

Stallion, 2 years and under 3.

First ..... McLay Bros.

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Stallion, 1 year and under 2.

First .....McLay Bros.
Second .....McLay Bros.
Third .....August Uihlein, Milwaukee.

Mare, 4 years or over, and foal at foot.

First .....McLay Bros.
Second .....McLay Bros.
Third .....August Uihlein.

Mare, 4 years or over.

First .....McLay Bros.
Second .....August Uihlein.

Mare, 3 years and under 4.

Second .....McLay Bros.
First .....McLay Bros.

Mare, 2 years and under 3.

First .....McLay Bros.
Second .....McLay Bros.
Third .....McLay Bros.

Mare, one year and under 2.

First .....McLay Bros.
Second .....August Uihlein.

Stallion or filly foal.

First .....McLay Bros.
Second .....August Uihlein.

Four animals, under 4 years, the get of one sire.

First .....McLay Bros.

Two animals, under 4 years, the produce of one mare.

First .....McLay Bros.

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OTHER REGISTERED DRAFT BREEDS.

Stallion, 4 years old or over.

First .....J. Crouch & Son, La Fayette, Ind.
Second .....J. Crouch & Son.

Stallion, 2 years and under 3.

First .....J. Crouch & Son.

STANDARD BRED AND REGISTERED TROTTING HORSES.

Stallion, 4 years old or over.

First .....J. R. Peak & Son, Winchester, Ill.
Second .....Progress Stud, Milwaukee.
Third .....August Uihlein, Milwaukee.

Stallion, 3 years and under 4.

First .....August Uihlein.

Stallion, 2 years and under 3.

First .....August Uihlein.

Stallion, 1 year and under 2.

First .....J. R. Peak & Son.
Second .....August Uihlein.
Third ..... Progress Stud.

Mare, 4 years or over, and foal at foot.

First .....J. R. Peak & Son.
Second .....August Uihlein.
Third ..... Progress Stud.

Mare, 4 years or over.

First .....J. R. Peak & Son.
Second .....J. R. Peak & Son.
Third ..... August Uihlein.

Mare, 3 years and under 4.

First .....J. R. Peak & Son.
Second .....J. R. Peak & Son.
Third ..... August Uihlein.

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Mare, 2 years and under 3.

First .....J. R. Peak & Son.
Second .....J. R. Peak & Son.
Third ..... Progress Stud.

Mare, one year and under 2.

First .....August Uihlein.
Second .....J. R. Peak & Son.
Third ..... Progress Stud.

Stallion or filly foal.

First .....J. R. Peak & Son.
Second .....Progress Stud.
Third .....J. R. Peak & Son.

Four animals, under 4 years, the get of one sire.

First .....J. R. Peak & Son.
Second .....Progress Stud.

Two animals, under 4 years, the produce of one mare.

First .....J. R. Peak & Son.
Second .....August Uihlein.

AMERICAN, ENGLISH, GERMAN AND FRENCH COACH HORSES.

Stallion, 4 years old or over.

First .....J. Crouch & Son.
Second .....J. Crouch & Son.
Third .....J. Crouch & Son.

Stallion, 3 years and under 4.

First .....Arthur Stericker, Janesville.
Second .....Arthur Stericker.
Third .....J. Crouch & Son.

Stallion, 2 years and under 3.

First .....J. Crouch & Son.
Second .....J. Crouch & Son.
Third .....Arthur Stericker.

Stallion, 1 year and under 2.

First .....J. Peak & Son, Winchester, Ill.

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Mare, 4 years or over, and foal at foot.

First .....J. R. Peak & Son.
Second .....A. R. Ives, Delavan.

Mare, 4 years or over.

First .....J. Crouch & Son.
Second .....J. R. Peak & Son.
Third .....Arthur Stericker.

Mare, 3 years and under 4.

First .....J. R. Peak & Son.

Mare, 2 years and under 3.

First .....J. R. Peak & Son.

Mare, one year and under 2.

First .....J. R. Peak & Son.

Stallion or filly foal.

First .....A. R. Ives.
Second .....J. R. Peak & Son.

Four animals, under 4 years, the get of one sire.

First .....J. R. Peak & Son.

Two animals, under 4 years, the produce of one mare.

First .....J. R. Peak & Son.

GAITED SADDLE HORSES.

Over 15½ hands.

First .....Progress Stud, Milwaukee.

Over 14½ hands, and under 15½ hands.

First .....Thomas Edwards, Waukesha.

Saddle pony, under 14½ hands.

First .....Wm. M. Chester, Milwaukee.
Second .....Hans Berg, Milwaukee.

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HARNESS HORSES.

Pair, 15¾ hands or over.

First ..... J. R. Peak & Son, Winchester, Ill.
Second ..... S. Breese & Son, Waukesha.

Pair, 15 hands, and under 15¾ hands.

First ..... Geo. Harding & Son, Waukesha.
Second ..... Geo. W. Trone & Son, Rushville, Ill.
Third ..... J R. Peak & Son.

Single animal, 15¾ hands or over.

First ..... J. R. Peak & Son
Second ..... Arthur Stericker, Janesville.
Third ..... Progress Stud, Milwaukee.

Single animal, 15 hands and under 15¾ hands.

First ..... J. R. Peak & Son.
Second ..... Progress Stud.
Third ..... G. W. Trone & Son.

PONIES.

Stallion, 3 years or over.

First ..... August Uihlein, Milwaukee.

Stallion, 2 years and under 3.

First ..... August Uihlein.

Mare, 3 years or over.

First ..... August Uihlein.

FARMER'S CLASSES.

GRADE DRAFT.

Brood mare with foal at foot.

First ..... W. F. Pilgrim, Wauwatosa.
Second ..... John Sleep, Waukesha.
Third ..... John Sleep

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Mare or gelding, 3 years or over.

First .....George McKerrow & Sons, Sussex.
Second .....George McKerrow & Sons.
Third .....John Sleep.

Mare or gelding, 2 years and under 3.

First .....John Sleep.

Mare or gelding, one year and under 2.

First .....John Sleep.

Colt foal, either sex.

First .....John Sleep.
Second .....John Sleep.
Third .....John Sleep.

Grade draft team, weighing not less than 3,200 lbs.

First .....George McKeerrow & Sons.

Team of chunks, weighing not less than 2,500 lbs. or over 3,200 lbs.

First .....Thomas Edwards, Waukesha.

GRADE COACHES.

Brood mare, with foal at foot.

First .....Wm. Zuill, Johnstown.
Second .....S. Breese & Son, Waukesha.
Third .....J. R. Love, Waukesha.

Mare or gelding, 3 years old or over.

First .....Geo. Chapman, Waukesha.
Second .....S. Breese & Son.
Third .....S. Breese & Son.

Mare or gelding, 2 years and under 3.

First .....Wm. Zuill
Second .....Geo. Chapman.
Third .....S. Breese & Son.

Mare or gelding, one year and under 2.

First .....Wm. Zuill.
Second .....S. Breese & Son.
Third .....Thos. Edwards, Waukesha.

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Colt foal, either sex.

First ..... Wm. Zuill.
Second ..... S. Breese & Son.
Third ..... J. R. Love.

NON-REGISTERED ROADSTERS.

Brood mare with foal at foot.

First ..... Thos. Edwards, Waukesha.
Second ..... S. Breese & Son, Waukesha.
Third ..... Murphy Bros., Prospect.

Mare or gelding, 3 years old or over.

First ..... Dniel Lee, Edmund.
Second ..... Thos. Edwards.
Third ..... S. Breese & Son.

Mare or gelding, 2 years and under 3.

First ..... Daniel Lee.
Second ..... Thos. Sanders, Waukesha.
Third ..... J. H. Sleep, Waukesha.

Mare or gelding, one year and under 2.

First ..... Daniel Lee.
Second ..... Thos. Sanders.
Third ..... S. Breese & Son.

Colt foal, either sex.

First ..... Murphy Bros.
Second ..... Thos. Edwards.
Third ..... S. Breese & Son.

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"DODDIES" AT STATE FAIR, 1902.

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CATTLE.

Judge of Shorthorns and Herefords, H. NOEL GIBSON, Delaware, Ont.
Judge of Aberdeen-Angus and Galloways, E. S. BURWELL, Madison.

SHORTHORNS, OPEN CLASS.

Bull, 3 years old or over.

First .....G. M. Casey, Clinton, Mo.
Second .....Geo. Harding & Son, Waukesha.
Third .....E. M. Bowen, Delphi, Ind.
Fourth .....A. H. Krouskop, Richland Center.

Bull, 2 years and under 3.

First ..... Geo. Harding & Son.
Second .....Chamberlin & Rosa, Beloit.
Third .....A. H. Krouskop.
Fourth .....E. D. Jones & Son, Rockland.

Bull, one year and under 2.

First ..... Geo. Harding & Son.
Second ..... G. M. Casey.
Third .....E. M. Bowen.
Fourth .....Chamberlin & Rosa.

Bull, under one year.

First ..... Geo. Harding & Son.
Second ..... G. M. Casey.
Third .....Geo. Harding & Son.
Fourth .....Geo. McKerrow & Sons, Sussex.

Cow, 3 years old or over.

First ..... Geo. Harding & Son.
Second .....E. W. Bowen.
Third .....E. W. Bowen.
Fourth ..... Geo. Harding & Son.

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Heifer, 2 years and under 3.

First ..... E. W. Bowen.
Second ..... Geo. Harding & Son.
Third ..... G. M. Casey.
Fourth ..... Geo. Harding & Son.

Heifer, one year old and under 2.

First ..... E. M. Bowen.
Second ..... Geo. Harding & Son.
Third ..... G. M. Casey.
Fourth ..... Geo. Harding & Son.

Heifer under one year.

First ..... G. M. Casey.
Second ..... G. M. Casey.
Third ..... Geo. Harding & Son.
Fourth ..... G. M. Casey.

Aged herd.

First ..... G. M. Casey.
Second ..... Geo. Harding & Son.
Third ..... E. M. Bowen.
Fourth ..... Chamberlin & Rosa.

Young herd.

First ..... Geo. Harding & Son.
Second ..... Chamberlin & Rosa.
Third ..... A. H. Krouskop.

Get of sire.

First ..... Geo. Harding & Son.
Second ..... G. M. Casey.
Third ..... Chamberlin & Rosa.

Produce of dam.

First ..... Geo. Harding & Son.
Second ..... G. M. Casey.
Third ..... Chamberlin & Rosa.

Senior champion bull ..... G. M. Casey.
Champion cow ..... G. M. Casey.
Junior champion bull ..... Geo. Harding & Son.
Champion heifer ..... E. W. Bowen.

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Wisconsin Shorthorn Breeders' Special.

Bull under one year ..... Geo. Harding & Son.

WISCONSIN SHORTHORNS.

Bull, 3 years old or over.

First ..... Geo. Harding & Son, Waukesha.
Second ..... Chamberlin & Rosa, Beloit.
Third ..... A. H. Krouskop, Richland Center.
Fourth ..... Daniel Lee, Edmund.

Bull, 2 years and under 3.

First ..... Geo. Harding & Son.
Second ..... Chamberlin & Rosa.
Third ..... A. H. Krouskop.
Fourth ..... E. D. Jones, Rockland.

Bull, one year and under 2.

First ..... Geo. Harding & Son.
Second ..... Chamberlin & Rosa.

Bull, under one year.

First ..... Geo. Harding & Son.
Second ..... Geo. Harding & Son.
Third ..... Geo. Harding & Son.
Fourth ..... Geo. McKerrow & Sons, Sussex.

Cow, 3 years old or over.

First ..... Geo. Harding & Son.
Second ..... Chamberlin & Rosa.
Third ..... E. D. Jones & Son.
Fourth ..... H. B. Drake & Son, Beaver Dam.

Heifer, 2 years and under 3.

First ..... Geo. Harding & Son.
Second ..... Geo. Harding & Son.
Third ..... Daniel Lee.
Fourth ..... E. D. Jones & Son.

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Heifer, one year and under 2.

First ..... Geo. Harding & Son.
Second ..... Geo. Harding & Son.
Third ..... Geo. Harding & Son.
Fourth ..... Chamberlin & Rosa.
First ..... Geo. Harding & Son.

Heifer under one year.

First ..... Geo. Harding & Son.
Second ..... Geo. Harding & Son.
Third ..... Geo. Harding & Son.
Fourth ..... Geo. Harding & Son.

Aged herd.

First ..... Geo. Harding & Son.
Second ..... Chamberlin & Rosa.
Third ..... Daniel Lee.
Fourth ..... E. D. Jones & Son.

Young herd.

First ..... Geo. Harding & Son.
Second ..... Chamberlin & Rosa.
Third ..... A. H. Krouskop.

Get of sire.

First ..... Harding & Son.
Second ..... Chamberlin & Rosa.
Third ..... H. B. Drake & Son.

Produce of dam.

Second ..... Chamberlin & Rosa.
Senior champion bull ..... Geo. Harding & Son.
Champion cow ..... Geeo. Harding & Son.
Junior champion bull ..... Geo. Harding & Son.
Champion Heifer ..... Geo. Harding & Son.

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SPECIAL PREMIUMS—SHORTHORN CATTLE.

Bull, one year and under 2.

First ..... Geo. Harding & Son, Waukesha.
Second ..... Chamberlin & Rosa, Beloit.

Senior bull calf.

First ..... Geo. Harding & Son.
Second ..... H. B. Drake & Son, Beaver Dam.
Third ..... Geo. McKerrow & Sons, Sussex.
Fourth ..... Geo. W. H. Hall, Edgerton.
Fifth ..... H. B. Drake & Son.
Sixth ..... Chamberlin & Rosa.

Junior bull calf.

First ..... Geo. Harding & Son.
Second ..... H. B. Drake & Son.
Third ..... Chamberlin & Rosa.
Fourth ..... Daniel Lee, Edmund.
Fifth ..... A. H. Krouskop, Richland Center.
Sixth ..... Harding & Son.

Senior yearling heifer.

First ..... Geo. Harding & Son.
Second ..... Chamberlin & Rosa.
Third ..... Chamberlin & Rosa.
Fourth ..... H. B. Drake & Son.
Fifth ..... Geo. W. Smith, Burnett Junction.
Sixth ..... Geo. W. Smith.

Junior yearling heifer.

First ..... Geo. Harding & Son.
Second ..... Geo. Harding & Son.
Third ..... E. D. Jones & Son.
Fourth ..... A. H. Krouskop.
Fifth ..... A. H. Krouskop.
Sixth ..... Daniel Lee.

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Senior heifer calf.

First ..... Geo. Harding & Son.
Second ..... Geo. Harding & Son.
Third ..... Chamberlin & Rosa.
Fourth ..... A. H. Krouskop.
Fifth ..... Chamberlin & Rosa.
Sixth ..... Daniel Lee.

Junior heifer calf.

First ..... Geo. Harding & Son.
Second ..... Geo. Harding & Son.
Third ..... A. H. Krouskop.
Fourth ..... A. H. Krouskop.
Fifth ..... H. B. Drake & Son.
Sixth ..... H. B. Drake & Son.

HEREFORD.

Bull, 3 years old or over.

First ..... H. N. Thompson, Woodstock, Ill.

Bull, 2 years and under 3.

First ..... H. N. Thompson.

Bull calf.

First ..... H. N. Thompson.

Bull, 2 years and under 3.

First ..... H. N. Thompson.

Heifer calf.

First ..... H. N. Thompson.

Produce of dam.

First ..... H. N. Thompson.
Senior champion bull ..... H. N. Thompson.
Champion cow ..... H. N. Thompson.
Junior champion Bull ..... H. N. Thompson.
Champion heifer ..... H. N. Thompson.

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ABERDEEN-ANGUS.

Bull, 3 years old or over.

First .....E. Reynolds & Son, Prophetstown, Ill.

Bull, 2 years and under 3.

First .....E. Reynolds & Son.

Bull, one year and under 2.

First .....C. H. Gardner, Blandinsville, Ill.
Second .....E. Reynolds & Son.

Bull calf.

First .....C. H. Gardner.
Second .....E. Reynolds & Son.
Third .....E. Reynolds & Son.

Cow, 3 years old or over.

First .....C. H. Gardner.
Second .....E. Reynolds & Son.
Third .....E. Reynolds & Son.

Heifer, 2 years and under 3.

First .....C. H. Gardner.
Second .....E. Reynolds & Son.

Heifer, one year and under 2.

First .....C. H. Gardner.
Second .....E. Reynolds & Son.
Third .....E. Reynolds & Son.

Heifer calf.

First .....C. H. Gardner.
Second .....E. Reynolds & Son.
Third .....E. Reynolds & Son.

Get of sire.

First .....C. H. Gardner.
Second .....E. Reynolds & Son.

Produce of dam.

First .....C. H. Gardner.
Second .....E. Reynolds & Son.

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Senior champion bull ..... E. Reynolds & Son.
Champion cow ..... C. H. Gardner.
Junior champion bull ..... C. H. Gardner.
Champion heifer ..... C. H. Gardner.

GALLOWAY.

Bull, 3 years old or over.

First ..... C. N. Moody, Atlanta, Mo.
Second ..... Brookside Farm Co., Fort Wayne, Ind.

Bull, 2 years and under 3.

First ..... C. N. Moody.

Bull, one year and under 2.

First ..... Brookside Farm Co.
Second ..... C. N. Moody.

Bull calf.

First ..... Brookside Farm Co.
Second ..... C. N. Moody.
Com. ..... Brookside Farm Co.

Cow, 3 years old or over.

First ..... Brookside Farm Co.
Second ..... C. N. Moody.
Com. ..... Brookside Farm Co.

Heifer, 2 years and under 3.

First ..... C. N. Moody.
Second ..... C. N. Moody.
Com. ..... Brookside Farm Co.

Heifer, one year and under 2.

First ..... C. N. Moody.
Second ..... C. N. Moody.
Com. ..... Brookside Farm Co.

Heifer calf.

First ..... C. N. Moody.
Second ..... Brookside Farm Co.
Com. ..... Brookside Farm Co.

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Get of sire.

First .....C. N. Moody.
Second .....Brookside Farm Co.

Produce of dam.

First .....C. N. Moody.
Second .....Brookside Farm Co.

Senior champion bull .....C. N. Moody.
Champion cow .....Brookside Farm Co.
Junior champion bull .....Brookside Farm Co.
Champion heifer .....C. N. Moody

DUAL-PURPOSE BREEDS.

Judge—T. F. McCONNELL, Madison.

RED POLLED.

Bull, 3 years old or over.

First .....J. J. Chambers, Sadorus, Ill.

Bull, 2 years and under 3.

First .....A. Dutton & Son, Trempealeau.

Bull, one year and under 2.

First .....J. J. Chambers.

Bull calf.

First .....A. Dutton & Son.
Second .....J. J. Chambers.

Cow, 3 years old or over.

First .....A. Dutton & Son.
Second .....A. Dutton & Son.
Com. .....J. J. Chambers.

Heifer, 2 years and under 3.

First .....J. J. Chambers.
Second .....A. Dutton & Son.

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Heifer, one year and under 2.

First ..... J. J. Chambers.
Second ..... J. J. Chambers.
Com. ..... A. Dutton & Son.

Heifer calf.

First ..... A. Dutton & Son.
Second ..... J. J. Chambers.
Com. ..... J. J. Chambers.

Get of sire.

First ..... J. J. Chambers.
Second ..... A. Dutton & Son.

Produce of dam.

First ..... J. J. Chambers.
Second ..... A. Dutton & Son.

Senior champion bull ..... J. J. Chambers.
Champion cow ..... A. Dutton & Son.
Junior champion bull ..... J. J. Chambers.
Champion heifer ..... J. J. Chambers.

BROWN SWISS.

Bull, 3 years old or over.

First ..... T. H. Inman, Hanover.
Second ..... A. W. Ayers, Honey Creek.
Com. ..... H. W. Ayers.

Bull, 2 years and under 3.

First ..... H. W. Ayers.

Bull, one year and under 2.

First ..... T. H. Inman.
Second ..... H. W. Ayers.

Bull calf.

First ..... T. H. Inman.
Second ..... T. H. Inman.
Com. ..... H. W. Ayers.

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Cow, 3 years old or over.

First ..... T. H. Inman.
Second ..... T. H. Inman.
Com. ..... H. W. Ayers.

Heifer, 2 years and under 3.

First ..... T. H. Inman.
Second ..... T. H. Inman.
Com. ..... H. W. Ayers.

Heifer, one year and under 2.

First ..... T. H. Inman.
Second ..... H. W. Ayers.
Com. ..... H. W. Ayers.

Heifer calf.

First ..... T. H. Inman.
Second ..... T. H. Inman.
Com. ..... T. H. Inman.

Get of sire.

First ..... T. H. Inman.
Second ..... H. W. Ayers.

Produce of dam.

First ..... T. H. Inman.
Second ..... H. W. Ayers.

Senior champion bull ..... T. H. Inman.
Champion cow ..... T. H. Inman.
Junior champion bull ..... T. H. Inman.
Champion heifer ..... T. H. Inman.

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DAIRY BREEDS.

Judge—Dr. M. B. WOOD, Mankato, Minn.

HOLSTEIN.

Bull, 3 years old or over.

First .....W. B. Barney & Co., Hampton, Iowa.
Second .....John B. Irwin, Minneapolis, Minn.
Com. .....A. Two & Son, Winnebago, Ill.

Bull, 2 years and under 3.

First .....W. B. Barney & Co.
Second .....John B. Irwin.

Bull, one year and under 2.

First .....John B. Irwin.
Second .....W. B. Barney & Co.
Com. .....Rust Bros., West Allis.

Bull calf.

First .....W. B. Barney & Co.
Second .....John B. Irwin.
Com. .....W. B. Barney & Co.

Cow, 3 years old or over.

First .....W. B. Barney & Co.
Second .....John B. Irwin.
Com. .....Rust Bros.

Heifer, 2 years and under 3.

First .....John B. Irwin.
Second .....John B. Irwin.
Com. .....Rust Bros.

Heifer, one year and under 2.

First .....John B. Irwin.
Second .....W. B. Barney & Co.
Com. .....John B. Irwin.

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Heifer calf.

First ..... W. B. Barney & Co.
Second ..... John B. Irwin.
Com. ..... John B. Irwin.

Get of sire.

First ..... John B. Irwin.
Second ..... Rust Bros.

Produce of dam.

First ..... John B. Irwin.
Second ..... A. Two & Son.

Senior champion bull ..... W. B. Barney & Co.
Champion cow ..... W. B. Barney & Co.
Junior champion bull ..... John B. Irwin.
Champin heifer ..... John B. Irwin.

GUERNSEY.

Bull, 3 years old or over.

First ..... Jas. H. Bierne, Oakfield.
Second ..... M. D. Cunningham, Kansasville.

Bull, 2 years and under 3.

First ..... Jas. H. Bierne.

Bull, one year and under 2.

First ..... M. D. Cunningham.
Second ..... Jas. H. Bierne.
Third ..... Jas. H. Bierne.

Bull calf.

First ..... Jas. H. Bierne.
Second ..... Jas. H. Bierne.
Third ..... M. D. Cunningham.

Cow, 3 years old or over.

First ..... Jas. H. Bierne.
Second ..... Chas. Salveson, Nashotah.
Third ..... Jas. H. Bierne.
Fourth ..... M. D. Cunningham.

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Heifer, 2 years and under 3.

First ..... M. D. Cunningham.
Second ..... Jas. H. Bierne.
Third ..... Jas. H. Bierne.

Heifer, one year and under 2.

First ..... Jas. H. Bierne.
Second ..... M. D. Cunningham.
Third ..... Jas. H. Bierne.

Heifer calf.

First ..... Jas. H. Bierne.
Second ..... M. D. Cunningham.
Third ..... Jas. H. Bierne.

Get of sire.

First ..... Jas. H. Bierne.
Second ..... M. D. Cunningham.

Produce of dam.

First ..... Jas. H. Bierne.
Second ..... M. D. Cunningham.

Senior champion bull ..... Jas. H. Bierne.
Champion cow ..... Jas. H. Bierne.
Junior champion bull ..... M. D. Cunningham.
Champion heifer ..... Jas. H. Bierne.

Special Exhibitors' Herd.

First ..... Jas. H. Bierne.
Second ..... M. D. Cunningham.

Western Guernsey Breeders' Association Special.

Breeders' Young Herd.

First ..... Jas. H. Bierne.
Second ..... M. D. Cunningham.

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JERSEY.

Bull, 3 years old or over.

First .....J. E. Robbins, Greensburg, Ind.
Second .....J. E. Robbins.
Com. .....E. A. Smith, Ringwood, Ill.

Bull, 2 years and under 3.

First .....J. E. Robbins.
Second .....Geo. A. Buckstaff, Oshkosh.

Bull, one year and under 2.

First .....J. E. Robbins.
Second .....E. A. Smith.
Com. .....E. A. Smith.

Bull calf.

First .....J. E. Robbins.
Second .....E. A. Smith.
Com. .....J. E. Robbins.

Cow, 3 years old or over.

First .....J. E. Robbins.
Second .....E. A. Smith.
Com. .....E. A. Smith.

Heifer, 2 years and under 3.

First .....J. E. Robbins.
Second .....E. A. Smith.
Com. .....E. A. Smith.

Heifer, one year and under 2.

First .....J. E. Robbins.
Second .....J. E. Robbins.
Com. .....E. A. Smith.

Heifer calf.

First .....J. E. Robbins.
Second .....E. A. Smith.
Com. .....E. A. Smith.

Digitized by Google

Get of sire.

First .....J. E. Robbins.
Second .....Geo. A. Buckstaff.

Produce of dam.

First .....J. E. Robbins.
Second .....E. A. Smith.

Senior champion bull .....J. E. Robbins.
Champion cow .....J. E. Robbins.
Junior champion bull .....J. E. Robbins.
Champion heifer .....J. E. Robbins.

SHEEP.

Judge of Mutton Breeds—T. NOEL GIBSON, Delaware, Ont.
Judge of Fine Wool Breeds—T. F. McCONNELL, Madison.

SHROPSHIRE.

Ram, 2 years old or over.

First .....G. Howard Davison, Mill Brook, N. Y.
Second .....G. Howard Davison.
Com. .....Geeo. Allen, Allerton, Ill.

Ram, one year and under 2.

First .....G. Howard Davison.
Second .....Morgan Farm, Beloit.
Com. .....Geo. Allen.

Ram under one year.

First .....Geo. Allen.
Second .....G. Howard Davison.
Com. .....Geo, Howard Davison.

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Ewe, 2 years old or over.

First ..... Morgan Farm.
Second ..... Geo. Allen.
Com. ..... Geo. Howard Davison.

Ewe, one year and under 2.

First ..... G. Howard Davison.
Second ..... Geo. Allen.
Com. ..... Geo. Howard Davison.

Ewe under one year.

First ..... Geo. Allen.
Second ..... G. Howard Davison.
Com. ..... Geo. Howard Davison.

Flock.

First ..... G. Howard Davison.
Second ..... Geo. Allen.
Com. ..... Morgan Farm.

Get of sire.

First ..... G. Howard Davison.

Champion ram of any age ..... G. Howard Davison.
Champion ewe of any age ..... G. Howard Davison.

OXFORD.

Ram, 2 years old or over.

First ..... Geo. McKerrow & Sons, Sussex.
Second ..... Geo. McKerrow & Sons.
Com. ..... Geo. McKerrow & Sons.

Ram, one year and under 2.

First ..... R. J. Stone, Stonington, Ill.
Second ..... Geo. McKerrow & Sons.
Com. ..... Geo. McKerrow & Sons.

Digitized by Google

Ram under one year.

First .....R. J. Stone.
Second .....Geo. McKerrow & Sons.
Com. .....Geo. McKerrow & Sons.

Ewe, 2 years old or over.

First .....Geo. McKerrow & Sons.
Second .....Geo. McKerrow & Sons.
Com. .....R. J. Stone.

Ewe, one year and under 2.

First .....Geo. McKerrow & Sons.
Second .....R. J. Stone.
Com. .....Geo. McKerrow & Sons.

Ewe under one year.

First .....Geo. McKerrow & Sons.
Second .....R. J. Stone.
Com. .....Geo. McKerrow & Sons.

Flock.

First .....Geo. McKerrow & Sons.
Second .....R. J. Stone.
Com. .....Geo. McKerrow & Sons.

Get of sire.

First .....Geo. McKerrow & Sons.
Second .....Geo. McKerrow & Sons.

Champion ram of any age .....R. J. Stone.
Champion ewe of any age .....Geo. McKerrow & Sons.

SOUTHDOWN.

Ram, 2 years old or over.

First .....McKerrow & Sons, Sussex.
Second .....Cole Bros., Spring Grove, Ill.
Com. .....Geo. Allen, Allerton, Ill.

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Ram, one year and under 2.

First .....Geo. McKerrow & Sons.
Second .....Geo. Allen.
Com. .....Geo. McKerrow & Sons.

Ram under one year.

First .....Geo. Allen.
Second .....Geo. McKerrow & Sons.
Com. .....Geo. McKerrow & Sons.

Ewe, 2 years old or over.

First .....Geo. McKerrow & Sons.
Second .....Geo. Allen.
Com. .....Cole Bros.

Ewe, one year and under 2.

First .....Geo. Allen.
Second .....Geo. McKerrow & Sons.
Com. .....Geo. McKerrow & Sons.

Ewe under one year.

First .....Geo. Allen.
Second .....Cole Bros.
Com. .....Geo. McKerrow & Sons.

Flock.

First .....Geo. Allen.
Second .....Geo. McKerrow & Sons.

Get of sire.

First .....Cole Bros.
Second .....Geo. McKerrow & Sons.

Champion ram of any age .....Geo. McKerrow & Sons.
Champion Ewe of any age .....Geo. Allen.

HAMPSHIRE.

Ram, 2 years old or over.

First .....Robert Taylor, Abbot, Neb.
Second .....Robert Taylor.
Com. .....Robert Taylor.

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Ram, one year and under 2.

First .....Robert Taylor.
Second .....Robert Taylor.
Com. .....Robert Taylor.

Ram under one year.

First .....Robert Taylor.
Second .....Robert Taylor.
Com. .....W. G. Bartholf, Burlington.

Ewe, 2 years old or over.

First .....Robert Taylor.
Second .....Robert Taylor.
Com. ..... W. G. Bartholf.

Ewe, one year and under 2.

First .....Geo. Harding & Son, Waukesha.
Second .....Robert Taylor.
Com. .....Robert Taylor.

Ewe under one year.

First .....Robert Taylor.
Second .....Robert Taylor.
Com. .....Robert Taylor.

Flock.

First .....Robert Taylor.
Second .....Robert Taylor.
Com. ..... W. G. Bartholf.

Get of sire.

First .....Robert Taylor.
Second ..... W. G. Bartholf.

Champion ram of any age .....Robert Taylor.
Champion ewe of any age .....Geo. Harding & Son.

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COTSWOLD.

Ram, 2 years old or over.

First .....Geo. Harding & Son, Waukesha.
Second .....Geo. Harding & Son.
Com. .....Wm. S. Dixon, Brandon.

Ram, one year and under 2.

First .....Harding & Son.
Second .....Geo. Harding & Son.
Com. .....Geo. Harding & Son.

Ram under one year.

First .....Harding & Son.
Second .....Geo. Harding & Son.

Ewe, 2 years old or over.

First .....Harding & Son.
Second .....Geo. Harding & Son.
Com. .....J. H. & W. S. Dixon, Brndon.

Ewe, one year and under 2.

First .....Harding & Son.
Second .....Geo. Harding & Son.
Com. .....J. H. & W. S. Dixon.

Ewe under one year.

First .....Harding & Son.
Second .....J. H. & W. S. Dixon.
Com. .....Geo. Harding & Son.

Flock.

First .....Harding & Son.
Second .....Geo. Harding & Son.

Champion ram of any age .....Geo. Harding & Son.
Champion ewe of any age .....Geo. Harding & Son.

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AMERICAN MERINO.

Ram, 2 years old or over.

First .....H. E. Moore, Orchard Lake, Mich.
Second .....H. E. Moore.
Com. .....J. H. & W. S. Dixon, Brandon.

Ram, one year and under 2.

First .....H. E. Moore.
Second .....H. E. Moore.
Com. .....J. H. & W. S. Dixon.

Ram under one year.

First .....H. E. Moore.
Second .....H. E. Moore.
Com. .....H. E. Moore.

Ewe, 2 years old or over.

First .....H. E. Moore.
Second .....H. E. Moore.
Com. .....J. H. & W. S. Dixon.

Ewe, one year and under 2.

First .....H. E. Moore.
Second .....H. E. Moore.
Com. .....J. H. & W. S. Dixon.

Ewe under one year.

First .....H. E. Moore.
Second .....H. E. Moore.
Com. .....H. E. Moore.

Flock.

First .....H. E. Moore.
Second .....H. E. Moore.

Get of sire.

First .....H. E. Moore.
Second .....J. H. & W. S. Dixon.
Com. .....J. H. & W. S. Dixon.

Champion ram of any age .....H. E. Moore.
Champion ewe of any age .....H. E. Moore.

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FRENCH OR DELAINE MERINO.

Ram, 2 years old or over.

First .....Geo. Harding & Son, Waukesha.
Second .....Geo. Harding & Son.
Com. .....A. E. Green, Orchard Lake, Mich.

Ram, one year and under 2.

First .....Geo. Harding & Son.
Second .....Cole Bros., Spring Grove, Ill.
Com. .....Geo. Harding & Son.

Ram under one year.

First .....Geo. Harding & Son.
Second .....Cole Bros.
Com. .....Geo. Harding & Son.

Ewe, 2 years old or over.

First .....Geo. Harding & Son.
Second .....Geo. Harding & Son.
Com. .....Cole Bros.

Ewe, one year and under 2.

First .....Geo. Harding & Son.
Second .....Geo. Harding & Son.
Com. .....A. E. Green.

Ewe under one year.

First .....Geo. Harding & Son.
Second .....Geo. Harding & Son.
Com. .....Cole Bros.

Flock.

First .....Geo. Harding & Son.
Second .....Geo. Harding & Son.

Get of sire.

First .....Geo. Harding & Son.
Second .....Cole Bros.

Champion ram of any age .....Geo. Harding & Son.
Champion ewe of any age .....Geo. Harding & Son.

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ANGORA GOATS.

Buck, 2 years old or over.

First ..... D. H. Syme, Glenwood.

Buck, one year and under 2.

First ..... D. H. Syme.

Buck kid.

First ..... D. H. Syme.

Doe, 2 years old or over.

First ..... D. H. Syme.

Doe, one year and under 2.

First ..... D. H. Syme.
Second ..... Fred A. Turner, Milwaukee.
Third ..... D. H. Syme.

Doe kid.

First ..... D. H. Syme.
Second ..... D. H. Syme.

SWINE.

Judge--WYMAN N. LOVEJOY, Roscoe, Ill.

POLAND CHINA.

Boar, 2 years old or over.

First ..... M. W. Reed, Whitewater.
Second ..... W. C. Waite, Whitewater.
Third ..... L. P. Martiny, North Freedom.

Boar, one year and under 2.

First ..... W. C. Waite.
Second ..... L. P. Martiny.

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Boar, over 6 months and under one year.

First ..... M. W. Reed.
Second ..... L. P. Martiny.
Third ..... L. P. Martiny.

Boar under 6 months.

First ..... L. P. Martiny.
Second ..... W. C. Waite.
Third ..... L. P. Martiny.

Sow, 2 years old or over.

First ..... M. W. Reed.
Second ..... W. C. Waite.
Third ..... L. P. Martiny.

Sow, one year and under 2.

First ..... M. W. Reed.
Second ..... M. W. Reed.
Third ..... A. Selle, Mequon.

Sow, over six months and under a year.

First ..... L. P. Martiny.
Second ..... L. P. Martiny.
Third ..... L. P. Martiny.

Sow under six months.

First ..... M. W. Reed.
Second ..... L. P. Martiny.
Third ..... L. P. Martiny.

Produce of dam.

First ..... L. P. Martiny.
Second ..... W. C. Waite.
Third ..... W. C. Waite.

Get of sire.

First ..... M. W. Reed.
Second ..... W. C. Waite.

Champion boar ..... M. W. Reed.
Champion sow ..... M. W. Reed.

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BERKSHIRE.

Boar, 2 years old or over.

First ..... H. P. West, Elkhorn.

Boar, one year and under 2.

First ..... Kelly Bros., Mineral Point.
Second ..... H. P. West.

Boar, over 6 months and under one year.

First ..... Kelly Bros.
Second ..... Kelly Bros.

Boar under 6 months.

First ..... Kelly Bros.
Second ..... Kelly Bros.

Sow, 2 years old or over.

First ..... Kelly Bros.

First ..... Kelly Bros.

Sow, one year and under 2.

First ..... Kelly Bros.
Second ..... H. P. West.

Sow, over six months and under a year.

First ..... Kelly Bros.
Second ..... Kelly Bros.

Sow under six months.

First ..... Kelly Bros.
Second ..... Kelly Bros.

Get of sire.

First ..... H. P. West.

Champion boar ..... Kelly Bros.
Champion sow ..... Kelly Bros.

Digitized by Google

CHESTER-WHITE.

Boar, 2 years old or over.

First ..... Dorsey Bros., Perry, Ill.
Secind ..... W. W. Vaughn, Spring Prairie.

Boar, one year and under 2.

First ..... Dorsey Bros.
Second ..... W. W. Vaughn.
Third ..... Kelly Bros., Mineral Point.

Boar, over 6 months and under one year.

First ..... Dorsey Bros.
Second ..... Dorsey Bros.
Third ..... Dorsey Bros.

Boar under 6 months.

First ..... Kelly Bros.
Second ..... W. W. Vaughn.
Third ..... W. W. Vaughn.

Sow, 2 years old or over.

First ..... Dorsey Bros.
Second ..... W. W. Vaughn.
Third ..... W. W. Vaughn.

Sow, one year and under 2.

First ..... Dorsey Bros.
Second ..... Dorsey Bros.
Third ..... W. W. Vaughn.

Sow, over six months and under a year.

First ..... Dorsey Bros.
Second ..... Dorsey Bros.
Third ..... Dorsey Bros.

Sow under six months.

First ..... Dorsey Bros.
Second ..... W. W. Vaughn.
Third ..... Kelly Bros.

Produce of dam.

First ..... W. W. Vaughn.

Digitized by Google

Get of sire.

First ..... Dorsey Bros.
Second ..... W. W. Vaughn.

Champion boar ..... Dorsey Bros.
Champion sow ..... Dorsey Bros.

VICTORIA.

Boar, 2 years old or over.

First ..... Davis Bros., Dyer, Ind.
Second ..... H. P. West, Elkhorn.
Third ..... Davis Bros.

Boar, one year and under 2.

First ..... Davis Bros.
Second ..... H. P. West.

Boar, over 6 months and under one year.

First ..... Davis Bros.
Second ..... H. P. West.
Third ..... H. P. West.

Boar under 6 months.

First ..... Davis Bros.
Second ..... Davis Bros.
Third ..... H. P. West.

Sow, 2 years old or over.

First ..... Davis Bros.
Second ..... H. P. West.
Third ..... H. P. West.

Sow, one year and under 2.

First ..... Davis Bros.
Second ..... Davis Bros.
Third ..... H. P. West.

Sow, over six months and under a year.

First ..... Davis Bros.
Second ..... Davis Bros.
Third ..... H. P. West.

Digitized by Google

Sow under six months.

First ..... Davis Bros.
Second ..... Davis Bros.
Third ..... H. P. West.

Produce of dam.

First ..... Davis Bros.
Second ..... H. P. West.
Third ..... H. P. West.

Get of sire.

First ..... Davis Bros.
Second ..... H. P. West.

Champion boar ..... Davis Bros.
Champion sow ..... Davis Bros.

DUROC-JERSEY.

Boar, 2 years old or over.

First ..... Geo. W. Trone & Sons, Rushville, Ill.
Second ..... N. B. Cutler, Carthage, Ill.

Boar, one year and under 2.

First ..... N. B. Cutler.
Second ..... M. W. Reed, Whitewater.
Third ..... Geo. W. Trone & Sons.

Boar, over 6 months and under one year.

First ..... M. W. Reed.
Second ..... N. B. Cutler.
Third ..... W. W. Vaughn, Spring Prairie.

Boar under 6 months.

First ..... M. W. Reed.
Second ..... N. B. Cutler.
Third ..... Geo. W. Trone & Sons.

Sow, 2 years old or over.

First ..... Geo. W. Trone & Sons.
Second ..... M. W. Reed.
Third ..... N. B. Cutler.

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Sow, one year and under 2.

First .....Geo. W. Trone & Sons.
Second .....N. B. Cutler.
Third .....Geo. W. Trone & Sons.

Sow, over six months and under a year.

First .....M. W. Reed.
Second .....N. B. Cutler.
Third .....M. W. Reed.

Sow under six months.

First .....M. W. Reed.
Second .....N. B. Cutler.
Third ..... N. B. Cutler.

Produce of dam.

First .....N. B. Cutler.
Second .....W. W. Vaughn.

Get of sire.

First .....M. W. Reed.
Second .....Geo. W. Trone & Sons.

Champion Boar .....N. B. Cutler.
Champion sow .....Geo. W. Trone & Sons.

ALL OTHER DISTINCT BREEDS.

Boar, 2 years old or over.

First .....C. H. Williams, Pittsford, Mich.
Second .....J. L. McMurray, California, Mich.

Boar, one year and under 2.

First .....J. L. McMurray.
Second .....Davis Bros., Dyer, Ind.
Third ..... C. H. Williams.

Boar, over 6 months and under one year.

First ..... C. H. Williams.
Second .....H. P. West, Elkhorn.
Third .....J. L. McMurray.

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Boar under 6 months.

First .....J. L. McMurray.
Second .....J. L. McMurray.
Third .....Wm. Nisbet, Richland Center.

Sow, 2 years old or over.

First .....J. L. McMurray.
Second .....H. P. West.
Third .....Kelly Bros., Mineral Point.

Sow, one year and under 2.

First .....J. L. McMurray.
Second .....J. L. McMurray.
Third .....Davis Bros., Dyer, Ind.

Sow, over six months and under a year.

First .....J. L. McMurray.
Second .....C. H. Williams.
Third .....C. H. Williams.

Sow under six months.

First .....Wm. Nisbet.
Second .....J. L. McMurray.
Third .....J. L. McMurray.

Produce of dam.

First .....C. H. Williams.
Second .....H. P. West.
Third .....Kelly Bros.

Get of sire.

First .....C. H. Williams.
Second .....J. L. McMurray.

Champion boar .....J. L. McMurray.
Champion sow .....J. L. McMurray.

Best exhibit, not more than five animals, etc.

First .....L. P. Martiny, North Freedom.
Second .....W. C. Waite, Whitewater.
Third .....Kelly Bros., Mineral Point.
Fourth .....M. W. Reed, Whitewater.

Digitized by Google

POULTRY.

Judge—S. BUTTERFIELD, London, Ont.

BARRED PLYMOUTH ROCKS.

Cock.

First .....Mrs. N. F. Grimshaw, Wauwatosa.
Second .....E. G. Roberts & Co., Fort Atkinson

Cockerel.

First .....Mrs. N. F. Grimshaw.
Second .....Mrs. N. F. Grimshaw.

Hen.

First .....George Cooke, Racine.
Second .....Mrs. N. F. Grimshaw.

Pullet.

First .....E. G. Roberts & Co.
Second .....E. G. Roberts & Co.

WHITE PLYMOUTH ROCK.

Cock.

First .....J. R. Love, Waukesha.
Second .....J. R. Love.

Cockerel.

First .....Meadow Glen Yards, Whitewater.
Second .....S. S. Rich, Horicon.

Hen.

First .....E. G. Roberts & Co.
Second .....Meadow Glen Yards.

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Pullet.

First .....J. G. Hickcox, Milwaukee.
Second .....J. R. Love.

BUFF PLYMOUTH ROCK.

Cock.

First .....Kasten Bros., Milwaukee.
Second .....Meadow Glen Yards.

Cockerel.

First .....E. G. Roberts & Co.
Second .....J. R. Love.

Hen.

First .....Kasten Bros.
Second .....Kasten Bros.

Pullet.

First .....E. G. Roberts & Co.
Second .....J. R. Love.

GOLDEN WYANDOTTE.

Cock.

First .....John E. Schulz, Milwaukee.
Second .....W. H. Eggebrecht, Milwaukee.

Cockerel.

First .....John E. Schulz.
Second .....John E. Schulz.

Hen.

First .....L. H. Waisner, Milwaukee.
Second .....Geo. Cooke, Racine.

Pullet.

First .....John E. Schulz.
Second .....W. H. Eggebrecht.

Digitized by Google

SILVER WYANDOTTE.

Cock.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

Cockerel.

First ..... N. B. Cutler, Carthage, Ill.
Second ..... E. G. Roberts & Co.

Hen.

First ..... E. G. Roberts & Co.
Second ..... Pasbrig & Stewart, Milwaukee

Pullet.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

BUFF WYANDOTTE.

Cock.

First ..... E. G. Roberts & Co.
Second ..... Arthur Julian, Milwaukee.

Cockerel.

First ..... Otto L. Kuehn, Milwaukee.
Second ..... Arthur Julian.

Hen.

First ..... Otto L. Kuehn.
Second ..... E. G. Roberts & Co.

Pullet.

First ..... Otto L. Kuehn.
Second ..... Otto L. Kuehn.

Digitized by Google

WHITE WYANDOTTE.

Cock.

First ..... Meadow Glen Yards, Whitewater.
Second ..... Pasbrig & Stewart, Milwaukee.

Cockerel.

First ..... Hubert Karl, Milwaukee.
Second ..... Joerndt Bros., Kenosha.

Hen.

First ..... Pasbrig & Stewart.
Second ..... Meadow Glen Yards.

Pullet.

First ..... Geo. Cooke, Racine.
Second ..... Geo. Cooke.

BLACK WYANDOTTE.

Cock.

First ..... E. G. Roberts & Co.

Cockerel.

First ..... E. G. Roberts & Co.

Hen.

First ..... E. G. Roberts & Co.

Pullet.

First ..... E. G. Roberts & Co.

PARTRIDGE WYANDOTTE.

Cock.

First ..... Oriole Springs Farm, Twin Lakes.

Cockerel.

First ..... Oriole Springs Farm,

Digitized by Google

Hen.

First ..... Oriole Springs Farm.

Pullet.

First ..... Oriole Springs Farm.

BLACK JAVA.

Cock.

First ..... Pasbrig & Stewart, Milwaukee.
Second ..... E. G. Roberts & Co.

Cockerel.

First ..... Pasbrig & Stewart.
Second ..... Pasbrig & Stewart.

Hen.

First ..... E. G. Roberts & Co.
Second ..... Pasbrig & Stewart.

Pullet.

First ..... Pasbrig & Stewart.
Second ..... E. G. Roberts & Co.

AMERICAN DOMINIQUE.

Cock.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

Cockerel.

First ..... Meadow Glen Yards.
Second ..... E. G. Roberts & Co.

Hen.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

Digitized by Google

Pullet.

First .....Meadow Glen Yards.
Second .....E. G. Roberts & Co.

WHITE DORKING.

Cock.

First .....Meadow Glen Yards.

Cockerel.

First .....Meadow Glen Yards.

Hen.

First .....Meadow Glen Yards.

Pullet.

First .....Meadow Glen Yards.

SILVER GRAY DORKING.

Cock.

First .....Meadow Glen Yards.
Second .....E. G. Roberts & Co.

Cockerel.

First .....E. G. Roberts & Co.
Second .....Meadow Glen Yards.

Hen.

First .....E. G. Roberts & Co.
Second .....Meadow Glen Yards.

Pullet.

First .....E. G. Roberts & Co.
First .....E. G. Roberts & Co.

Digitized by Google

BLACK LANGSHAN.

Cock.

First .....Meadow Glen Yards.
Second .....Pasbrig & Stewart, Milwaukee.

Cockerel.

First .....Pasbrig & Stewart.
Second .....Geo. Cooke, Racine.

Hen.

First .....Geo. Cooke.
Second .....Pasbrig & Stewart.

Pullet.

First .....Geo. Cooke.
Second .....Pasbrig & Stewart.

WHITE LANGSHAN.

Cock.

First .....E. G. Roberts & Co.

Cockerel.

First .....E. G. Roberts & Co.

Hen.

First .....E. G. Roberts & Co.

Pullet.

First .....E. G. Roberts & Co.

DARK BRAHMA.

Cock.

First .....E. G. Roberts & Co.
Second .....Meadow Glen Yards.

Digitized by Google

Cockerel.

First ..... Josephine Griffith, Kenosha.
Second ..... J. R. Love, Waukesha.

Hen.

First ..... Josephine Griffith.
Second ..... J. R. Love.

Pullet.

First ..... Josephine Griffith.
Second ..... Josephine Griffith.

LIGHT BRAHMA.

Cock.

First ..... J. R. Love.
Second ..... Meadow Glen Yards.

Cockerel.

First ..... J. R. Love.
Second ..... Chas. Eckstein, Wauwatosa.

Hen.

First ..... Fred Goetz, Milwaukee.
Second ..... Fred Goetz.

Pullet.

First ..... J. R. Love.
Second ..... Chas. Eckstein.

BUFF COCHIN.

Cock.

First ..... Pasbrig & Stewart.
Second ..... Greenwald Bros., Milwaukee.

Cockerel.

First ..... Krause Bros., Milwaukee.
Second ..... Greenwald Bros.

Digitized by Google

Hen.

First ..... Pasbrig & Stewart.
Second ..... Greenwald Bros.

Pullet.

First ..... Greenwald Bros.
Second ..... Krause Bros.

PARTRIDGE COCHIN.

Cock.

First ..... Fred Goetz, Milwaukee.
Second ..... Joerndt Bros., Kenosha.

Cockerel.

First ..... John Conrad, Milwaukee.
Second ..... E. G. Roberts & Co.

Hen.

First ..... Fred Goetz.
Second ..... Fred Goetz.

Pullet.

First ..... E. G. Roberts & Co.
Second ..... John Conrad.

WHITE COCHIN.

Cock.

First ..... Joerndt Bras., Kenosha.

Cockerel.

First ..... Joerndt Bros.
Second ..... Joerndt Bros.

Hen.

First ..... E. G. Roberts & Co.
Second ..... Joerndt Bros.

Digitized by Google

Pullet.

First ..... Joerndt Bros.
Second ..... Joerndt Bros.

BLACK COCHIN.

Cock.

First ..... Meadow Glen Yards.
Second ..... E. G. Roberts & Co.

Cockerel.

First ..... Joerndt Bros.

Hen.

First ..... Meadow Glen Yards.

Pullet.

First ..... Meadow Glen Yards.

BLUE ANDALUSIAN.

Cock.

First ..... John E. Donovan, Milwaukee.

Cockerel.

First ..... John E. Donovan.
Second ..... Meadow Glen Yards.

Hen.

First ..... John E. Donovan.
Second ..... John E. Donovan.

Pullet.

First ..... John E. Donovan.
Second ..... John E. Donovan.

Digitized by Google

SINGLE COMB BROWN LEGHORN.

Cock.

First .....E. G. Roberts & Co.
Second .....E. G. Roberts & Co.

Cockerel.

First .....Chas. Eckstein, Wauwatosa.
Second .....Chas. Eckstein.

Hen.

First .....E. G. Roberts & Co.
Second .....John E. Donovan, Milwaukee.

Pullet.

First ..... Chas. Eckstein.
Second .....Chas. Eckstein.

BLACK LEGHORN.

Cock.

First .....Meadow Glen Yards.
Second .....E. G. Roberts & Co.

Hen.

First .....Meadow Glen Yards.
Second .....Geo. Ewald, Cincinnati, O.

Pullet.

First .....E. G. Roberts & Co.

BUFF LEGHORN.

Cock.

First .....E. G. Roberts & Co.
Second .....Joerndt Bros.

Cockerel.

First .....E. G. Roberts & Co.
Second .....Joerndt Bros.

Digitized by Google

Hen.

First ..... Kasten Bros., Milwaukee.
Second ..... E. G. Roberts & Co.

Pullet.

First ..... Kasten Bros.
Second ..... E. G. Roberts & Co.

BLACK MINORCA.

Cock.

First ..... Chas. Eckstein, Wauwatosa.
Second ..... E. G. Roberts & Co.

Cockerel.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

Hen.

First ..... Curtis & Wehr, Milwaukee.
Second ..... Curtis & Wehr.

Pullet.

First ..... E. G. Roberts & Co.
Second ..... Chas. Eckstein.

WHITE MINORCA.

Cock

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

Cockerel.

First ..... Meadow Glen Yards.
Second ..... E. G. Roberts & Co.

Hen.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

Digitized by Google

Pullet.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

WHITE FACED BLACK SPANISH.

Cock.

First ..... Meadow Glen Yards.
Second ..... W. G. Gallagher, Waukesha.

Cockerel.

First ..... W. G. Gallagher.
Second ..... E. G. Roberts & Co.

Hen.

First ..... W. G. Gallagher.
Second ..... W. G. Gallagher.

Pullet.

First ..... W. G. Gallagher.
Second ..... W. G. Gallagher.

MOTTLED HOUDAN.

Cock.

First ..... L. Waisner, Milwaukee.
Second ..... Meadow Glen Yards.

Cockerel.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

Hen.

First ..... Meadow Glen Yards.
Second ..... L. H. Waisner.

Pullet.

First ..... Meadow Glen Yards.
Second ..... E. G. Roberts & Co.

Digitized by Google

BUFF LACED POLISH.

Cock.

First .....Geo. Ewald, Cincinnati, O.

Hen.

First .....Geo. Ewald.

BLACK POLISH.

Cock.

First .....E. G. Roberts & Co.
Second .....Meadow Glen Yards.

Cockerel.

First .....E. G. Roberts & Co.
Second .....Meadow Glen Yards.

Hen.

First .....E. G. Roberts & Co.
Second .....E. G. Roberts & Co.

Pullet.

First .....E. G. Roberts & Co.
Second .....Geo. Cooke, Racine.

WHITE POLISH.

Cock.

First .....Meadow Glen Yards, Whitewater.
Second .....Geo. Ewald, Cincinnati, O.

Cockerel.

First .....E. G. Raberts & Co., Ft. Atkinson.
Second .....E. G. Roberts & Co.

Hen.

First .....E. G. Roberts & Co.

Digitized by Google

SILVER POLISH.

Cock.

First ..... Meadow Glen Yards.
Second ..... E. G. Roberts & Co.

Cockerel.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

Hen.

First ..... Meadow Glen Yards.
Second ..... E. G. Roberts & Co.

Pullet.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

GOLDEN POLISH.

Cock.

First ..... Meadow Glen Yards.
Second ..... E. G. Roberts & Co.

Cockerel.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

Hen.

First ..... E. G. Roberts & Co.
Second ..... Geo. Ewald.

Pullet.

First ..... Meadow Glen Yards.
Second ..... E. G. Roberts & Co.

Digitized by Google

BLACK HAMBURG.

Cock.

First ..... Meadow Glen Yards.
Second ..... Pasbrig & Stewart, Milwaukee.

Cockerel.

First ..... E. G. Roberts & Co.
Second ..... Pasbrig & Stewart.

Hen.

First ..... Pasbrig & Stewart.
Second ..... E. G. Roberts & Co.

Pullet.

First ..... Pasbrig & Stewart.
Second ..... Pasbrig & Stewart.

SILVER SPANGLED HAMBURG.

Cock.

First ..... S. S. Rich, Horicon.
Second ..... E. G. Roberts & Co.

Cockerel.

First ..... S. S. Rich.
Second ..... Meadow Glen Yards.

Hen.

First ..... S. S. Rich.
Second ..... E. G. Roberts & Co.

Pullet.

First ..... S. S. Rich.
Second ..... S. S. Rich.

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SILVER PENCILED HAMBURG.

Cock.

First .....Chas. Pappenheimer, Waukesha.

Cockerel.

First .....E. G. Roberts & Co.
Second .....Chas. Pappenheimer.

Hen.

First .....E. G. Roberts & Co.
Second .....Chas. Pappenheimer.

Pullet.

First .....Meadow Glen Yards.
Second .....E. G. Roberts & Co.

GOLDEN SPANGLED HAMBURG.

Cock.

First .....E. G. Roberts & Co.
Second .....Meadow Glen Yards.

Cockerel.

First .....E. G. Roberts & Co.

Hen.

First .....Meadow Glen Yards.
Second .....E. G. Roberts & Co.

Pullet.

First .....E. G. Roberts & Co.

GOLDEN PENCILED HAMBURG.

Cock.

First .....Meadow Glen Yards.
Second .....E. G. Roberts & Co.

Digitized by Google

Cockerel.

First ..... Meadow Glen Yards.
Second ..... E. G. Roberts & Co.

Hen.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

Pullet.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

BROWN RED GAME.

Cock.

First ..... E. G. Roberts & Co.
Second ..... Jos. Wuensch, Milwaukee.

Cockerel.

Second ..... E. G. Roberts & Co.

Hen.

First ..... E. G. Roberts & Co.
Second ..... Jos. Wuensch.

Pullet.

First ..... E. G. Roberts & Co.
Second ..... Jos. Wuensch.

CORNISH INDIAN GAMES.

Cock.

First ..... Pasbrig & Stewart.
Second ..... Pasbrig & Stewart.

Cockerel.

First ..... S. S. Rich, Horicon.
Second ..... S. S. Rich.

Digitized by Google

Hen.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

Pullet.

First ..... Pasbrig & Stewart.
Second ..... S. S. Rich.

PYLE GAME.

Cock.

First ..... Meadow Glen Yards.

Cockerel.

First ..... Meadow Glen Yards.
Second ..... E. G. Roberts & Co.

Hen.

First ..... Meadow Glen Yards.
Second ..... Meadow Glen Yards.

Pullet.

First ..... Meadow Glen Yards.
Second ..... E. G. Roberts & Co.

BLACK BREASTED GAME.

Cock.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

Cockerel.

First ..... Meadow Glen Yards.

Hen.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

Digitized by Google

Pullet.

First ..... Meadow Glen Yards.
Second ..... Meadow Glen Yards.

BLACK TARTAR GAMES.

Cock.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

Cockerel.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

Hen.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

Pullet.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

GOLDEN DUCKWING GAME.

Cock.

First ..... E. G. Roberts & Co.

Cockerel.

First ..... E. G. Roberts & Co.

Hen.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

Pullet.

First ..... E. G. Roberts & Co.

Digitized by Google

SILVER 'DUCKWING GAME.

Cock.

First ..... Meadow Glen Yards.
Second ..... E. G. Roberts & Co.

Cockerel.

First ..... Meadow Glen Yards.

Hen.

First ..... Meadow Glen Yards.
Second ..... E. G. Roberts & Co.

Pullet.

First ..... Meadow Glen Yards.

SILVER SEABRIGHT BANTAM.

Cock.

First ..... Pasbrig & Stewart, Milwaukee.
Second ..... G. H. Wright, Delavan.

Cockerel.

First ..... G. H. Wright.
Second ..... E. G. Roberts & Co.

Hen.

First ..... G. H. Wright.
Second ..... Pasbrig & Stewart.

Pullet.

First ..... C. H. Wright.
Second ..... Pasbrig & Stewart.

Digitized by Google

GOLDEN SEABRIGHT BANTAM.

Cock.

First .....J. C. Schulz, Milwaukee.
Second ..... E. G. Roberts & Co.

Cockerel.

First .....G. H. Wright, Delavan.
Second ..... E. G. Roberts & Co.

Hen.

First .....J. C. Schulz.
Second .....G. H. Wright.

Pullet.

First .....G. H. Wright.
Second .....G. H. Wright.

SILVER DUCKWING BANTAM.

Cock.

First .....Geo. Ewald, Cincinnati, O.
Second .....A. A. Fenn Co., Burlington.

Cockerel.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

Hen.

First ..... E. G. Roberts & Co.
Second .....Curtis & Wehr, Milwaukee.

Pullet.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

Digitized by Google

BLACK BREASTED RED GAME BANTAM.

Cock.

First ..... C. H. Kuehn, Milwaukee.
Second ..... G. H. Wright, Milwaukee.

Cockerel.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

Hen.

First ..... C. H. Kuehn.
Second ..... Meadow Glen Yards.

Pullet.

First ..... Pasbrig & Stewart.
Second ..... C. H. Kuehn.

RED PYLE GAME BANTAM.

Cock.

First ..... Geo. Ewald, Cincinnati, O.
Second ..... E. G. Roberts & Co.

Cockerel.

First ..... E. G. Roberts & Co.
Second ..... Pasbrig & Stewart.

Hen.

First ..... E. G. Roberts & Co.
Second ..... Pasbrig & Stewart.

Pullet.

First ..... E. G. Roberts & Co.
Second ..... Pasbrig & Stewart.

Digitized by Google

BROWN RED GAME BANTAM.

Cock.

First ..... E. G. Roberts & Co.
Second ..... Geo. Ewald.

Cockerel.

First ..... E. G. Roberts & Co.

Hen.

First ..... Pasbrig & Stewart.
Second ..... E. G. Roberts & Co.

Pullet.

First ..... Pasbrig & Stewart.
Second ..... E. G. Roberts & Co.

GOLDEN DUCKWING GAME BANTAM.

Cock.

First ..... Geo. Ewald.
Second ..... E. G. Roberts & Co.

Cockerel.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

Hen.

First ..... Geo. Ewald.
Second ..... Geo. Ewald.

Pullet.

First ..... E. G. Roberts & Co.

Digitized by Google

WHITE GAME BANTAM.

Cock.

First ..... E. G. Roberts & Co.
Second ..... Geo. Ewald.

Cockerel.

First ..... E. G. Roberts & Co.

Hen.

First ..... A. A. Fenn Co., Burlington.
Second ..... E. G. Roberts & Co.

Pullet.

First ..... E. G. Roberts & Co.

PARTRIDGE COCHIN BANTAM.

Cock.

First ..... Henry Gieratz, Milwaukee.
Second ..... Henry Gieratz.

Cockerel.

First ..... Arthur Julian, Milwaukee.
Second ..... Henry Gieratz.

Hen.

First ..... Henry Gieratz.
Second ..... Henry Gieratz.

Pullet.

First ..... Arthur Julian.
Second ..... Henry Gieratz.

Digitized by Google

BUFF COCHIN BANTAM.

Cock.

First .....A. A. Fenn Co., Burlington.
Second .....Henry Gieratz.

Cockerel.

First .....A. A. Fenn Co.
Second .....G. H. Wright.

Hen.

First .....Henry Gieratz.
Second .....Geo. Ewald.

Pullet.

First .....Pasbrig & Stewart.
Second ..... Meadow Glen Yards.

WHITE COCHIN BANTAM.

Cock.

First ..... Meadow Glen Yards.
Second ..... E. G. Roberts & Co.

Cockerel.

First ..... E. G. Roberts & Co.
Second .....G. H. Wright.

Hen.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

Pullet.

First .....A. A. Fenn Co.
Second ..... E. G. Roberts & Co.

Digitized by Google

BLACK COCHIN BANTAM.

Cockerel.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

Hen.

First ..... Geo. Ewald.
Second ..... E. G. Roberts & Co.

Pullet.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

BLACK ROSE COMB BANTAM.

Cock.

First ..... Geo. Ewald.
Second ..... E. G. Roberts & Co.

Cockerel.

First ..... E. G. Roberts & Co.
Second ..... A. A. Fenn Co.

Hen.

First ..... Basbrig & Stewart.
Second ..... Geo. Ewald.

Pullet.

First ..... A. A. Fenn Co.
Second ..... E. G. Roberts & Co.

Digitized by Google

WHITE JAPANESE BANTAM.

Cock.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

Cockerel.

First ..... E. G. Roberts & Co.

Hen.

First ..... Geo. Ewald.
Second ..... E. G. Roberts & Co.

Pullet.

First ..... E. G. Roberts & Co.

WHITE JAPANESE BANTAM. (BLACK TAILS.)

Cock.

First ..... A. A. Fenn Co., Burlington.
Second ..... A. A. Fenn Co.

Cockerel.

First ..... E. G. Roberts & Co.
Second ..... A. A. Fenn Co.

Hen.

First ..... A. A. Fenn Co.
Second ..... E. G. Roberts & Co.

Pullet.

First ..... Meadow Glen Yards.
Second ..... A. A. Fenn Co.

SWEEPSTAKES.

American Breeds ..... E. G. Roberts & Co., Ft. Atkinson.
Asiatic Breeds ..... E. G. Roberts & Co.

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TURKEYS.

Black.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

Slate.

First ..... Meadow Glen Yards.

White Holland.

First .....L. P. Gillon, Hale's Corners.
Second .....Geo. H. Wright, Milwaukee.

Naragansett.

First ..... E. G. Roberts & Co.

Buff.

First ..... E. G. Roberts & Co.

DUCKS.

Pekin.

First .....Chas Pappenheimer, Waukesha.
Second .....L. P. Gillon, Hales Corners.

Aylesbury.

First ..... E. G. Roberts & Co.

Rouen.

First ..... E. G. Roberts & Co.
Second .....E. G. Roberts & Co.

Muscovy.

First ..... Meadow Glen Yards.
Second .....E. G. Roberts & Co.

East India.

First ..... E. G. Roberts & Co.

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GEESE.

Toulouse.

First ..... E. G. Roberts & Co.

Embden.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

African.

First ..... E. G. Roberts & Co.
Second ..... E. G. Roberts & Co.

Wild.

First ..... G. H. Wright.
Second ..... E. G. Roberts & Co.

Chinese White.

First ..... E. G. Roberts & Co.

Chinese Brown.

First ..... E. G. Roberts & Co.
Second ..... G. H. Wright.

MISCELLANEOUS.

Guinea fowls, mottled.

First ..... Chas. Pappenheimer.

Guinea fowls, white.

First ..... E. G. Roberts & Co.
Second ..... G. H. Wright.

English Pheasants.

First ..... Frank Rader, Milwaukee.
Second ..... Chas. Eckstein, Milwaukee.

Rumpless fowls.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

Japanese Silkies.

First ..... E. G. Roberts & Co.
Second ..... Meadow Glen Yards.

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Frizzles.

First .....E. G. Roberts & Co.
Second .....E. G. Roberts & Co.

Call Ducks.

First .....E. G. Roberts & Co.
Second .....J. R. Love, Waukesha.

White Crested Ducks.

First .....E. G. Roberts & Co.
Second .....Meadow Glen Yards, Whitewater.

BELGIAN OR OTHER REGISTERED HARES.

Buck, one year or over.

First .....Ed. R. Suender, Chicago, Ill.
Second .....Chas. Eckstein, Milwaukee.

Doe, one year or over.

First ..... Ed. R. Suender.
Second .....Ed. R. Sunder.

Buck, over 6 months and under one year.

First ..... Chas. Eckstein.
Second .....Ed. R. Sunder.

Doe, over 6 months and under one year.

First ..... Ed. R. Suender.
Second ..... Chas. Eckstein.

Doe with litter.

First ..... Chas. Eckstein.
Second ..... Chas. Eckstein.

The Pigeon Division of this department was under the direction of L. A. Jansen of Milwaukee.

Thirty-six exhibitors entered over 1,000 birds, representing all the different popular varieties.

This exhibit made one of the most interesting and attractive features of the fair.

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AGRICULTURE.

Judge—H. B. DRAKE, Beaver Dam.

GRAINS.

Winter wheat.

First .....John Grape, Waukesha.
Second .....J. H. Pilgrim, Milwaukee.

Spring wheat.

First .....J. H. Pilgrim.
Second .....H. P. West, Elkhorn.

Oats, Welcome type.

First .....W. F. Pilgrim, Wauwatosa.
Second .....H. P. West.

Oats, Russian type.

First .....J. H. Pilgrim.
Second .....H. P. West.

Barley, bearded.

First .....W. F. Pilgrim.
Second .....Jos. Haus, Jefferson.

Barley, beardless.

First .....John Grape.
Second .....H. P. West.

Spring rye.

First .....Mark West, Fayetteville.
Second .....H. P. West.

Winter rye.

First .....Jos. Haus.
Second .....H. P. West.

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Buckwheat, Japanese.

First ..... Jos. Haus.
Second ..... J. H. Pilgrim.

Buckwheat, silver hull.

First ..... J. H. Pilgrim.
Second ..... Jos. Haus.

Flax seed.

First ..... J. H. Pilgrim.
Second ..... W. F. Pilgrim.

Timothy seed.

First ..... Mark West.
First ..... J. H. Pilgrim.

Red clover seed.

First ..... W. F. Pilgrim.
Second ..... Mark West.

White clover seed.

First ..... J. H. Pilgrim.
Second ..... W. F. Pilgrim.

Alsike clover seed.

First ..... H. P. West.
Second ..... J. H. Pilgrim.

Red top seed.

First ..... J. H. Pilgrim.
Second ..... Mark West.

Rape seed.

First ..... H. P. West.
Second ..... J. H. Pilgrim.

Golden millet.

First ..... H. P. West.
Second ..... J. H. Pilgrim.

White millet.

First ..... J. H. Pilgrim.
Second ..... John Grape.

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Early peas.

First ..... Mark West.
Second ..... John Grape.

Alaska peas.

First ..... Mrs. B. C. Ingersoll, Prospect.
Second ..... John Grape.

Green field peas.

Second ..... John Grape.
Second ..... H. P. West.

White field peas.

First ..... Mrs. B. C. Ingersoll.
Second ..... John Grape.

White marrowfat peas.

First ..... H. P. West.
Second ..... W. F. Pilgrim.

Early wrinkled peas.

First ..... John Grape.
Second ..... W. F. Pilgrim.

Lentils.

First ..... John Grape.
Second ..... H. P. West.

Navy beans.

First ..... H. P. West.
Second ..... Jos. Haus.

Any other white field bean.

First ..... Mrs. B. C. Ingersoll.
Second ..... Casper Olson, Genesee.

Wax beans.

First ..... Mrs. B. C. Ingersoll.
Second ..... John Grape.

Lima beans.

First ..... John Grape.
Second ..... J. H. Pilgrim.

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White dent corn.

First ..... Jos. Haus.
Second ..... Kelly Bros., Mineral Point.

White flint corn.

First ..... J. H. Pilgrim.
Second ..... Jos. Haus.

Yellow flint corn.

First ..... Sheldon & Stiles, Lake Mills.
Second ..... Jos. Haus.

Yellow dent corn.

First ..... H. P. West.
Second ..... Jos. Haus.

Early sweet corn.

First ..... J. H. Pilgrim.
Second ..... H. P. West.

Late sweet corn.

First ..... J. H. Pilgrim.
Second ..... Sheldon & Stiles.

Pop corn.

First ..... J. R. Love, Waukesha.
Second ..... Casper Olson, Genesee.

Leaf tobacco.

First ..... Mrs. B. Ingersoll.
Second ..... Casper Olson.

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VEGETABLES.

Judge—L. L. OLDS, Clinton.

Turnip, blood beets.

First .....W. F. Pilgrim, Wauwatosa.
Second .....John Grape, Waukesha.

Long blood beets.

First .....Mrs. B. C. Ingersoll, Prospect.
Second .....Casper Olson, Genesee.

Long red mangolds.

First .....Mrs. B. C. Ingersoll.
Second .....John Grape.

Yellow tankard mangolds.

First .....Mrs. B. C. Ingersoll.
Second .....John Grape.

Yellow onions.

First .....Casper Olson.
Second .....John Grape.

Red onions.

First .....Casper Olson.
Second .....John Grape.

White onions.

First .....Casper Olson.
Second .....John Grape.

Drumhead cabbages.

First .....Casper Olson.
Second .....John Grape.

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Pointed cabbages.

First .....John Grape.
Second .....Casper Olson.

Long red carrots.

First .....Mrs. B. C. Ingersoll.
Second .....John Grape.

Long white carrots.

First .....Mrs. B. C. Ingersoll.
Second .....John Grape.

Oxhart carrots.

First .....Mrs. B. C. Ingersoll.
Second .....Casper Olson.

Cauliflower.

First .....John Grape.
Second .....Mrs. B. C. Ingersoll.

Celery.

First .....John Grape.
Second .....Mrs. B. C. Ingersoll.

Parsnips.

First .....Mrs. B. C. Ingersoll.
Second .....Casper Olson.

Water melons.

First .....John Grape.

Musk melons.

First ..... W. F. Pilgrim.
Second .....E. L. Benedict, Beloit.

Winter Squashes.

First ..... W. F. Pilgrim.
Second .....Casper Olson.

Largest squash.

First .....John Grape.
Second .....Wis. Industrial School for Girls, Milwaukee.

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Largest pumpkin.

First .....Wis. Ind. School for Girls.
Second .....John Grape.

Tomatoes.

First ..... W. F. Pilgrim.
Second .....Mrs. B. C. Ingersoll.

Flat turnips.

First .....John Grape.
Second .....Mrs. B. C. Ingersoll.

Rutabagas.

First .....John Grape.
Second .....Mrs. B. C. Ingersoll.

Yellow pumpkins.

First .....H. P. West, Elkhorn.
Second .....John Grape.

Egg plants.

First .....John Grape.
Second .....Casper Olson.

Cucumbers.

First .....Mrs. B. C. Ingersoll.
Second .....E. L. Benedict.

Peppers.

First .....Casper Olson.
Second .....John Grape.

POTATOES. (PROFESSIONAL CLASS.)

Ohio Family.

First .....H. P. West, Elkhorn.
Second .....Kelly Bros., Mineral Point.

Rose Family.

First ..... Kelly Bros.
Second .....H. P. West.

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Hebron Family.

First ..... Kelly Bros.
Second ..... H. P. West.

Snow Flake Family.

First ..... Kelly Bros.
Second ..... H. P. West.

Busbank Family.

First ..... Kelly Bros.
Second ..... H. P. West.

POTATOES. (FARMER'S CLASS.)

World's Fair.

First ..... E. L. Benedict, Beloit
Second ..... Casper Olson, Genesee.

Early Ohio.

First ..... Mrs. B. C. Ingersoll, Prospect
Second ..... E. L. Benedict.

Rural New Yorker, No. 2.

First ..... Mrs. B. C. Ingersoll.
Second ..... Sasper Olson

Early Rose.

First ..... Casper Olson.
Second ..... E. L. Benedict.

Beauty of Hebron.

First ..... Casper Olson.
Second ..... W. F. Pilgrim.

Early Vaughn.

First ..... Casper Olson.
Second ..... John Grape.

Empire State.

First ..... Casper Olson.
Second ..... Mrs. B. C. Ingersoll.

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American Wonder.

First ..... Casper Olson.
Second ..... Mrs. B. C. Ingersoll.

Rose of Erin.

First ..... Casper Olson.
Second ..... John Grape.

Carmen No. 3.

First ..... Mrs. B. C. Ingersoll.
Second ..... E. L. Benedict.

Sir Walter Raleigh.

First ..... Casper Olson.
Second ..... E. L. Benedict.

Any other variety.

First ..... Mrs. B. C. Ingersoll.
Second ..... E. L. Benedict.

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COUNTY EXHIBITS.

Scores of the exhibits of the several counties represented.

	Price.	Walworth.	Gates.	Jefferson.	Wood.	Milwaukee.
Wheat	50	100	15	70	65	.....
Corn	20	100	.....	65	25	10
Oats	65	100	10	40	60	15
Barley	55	100	.....	60	40	.....
Peas	100	30	.....	60	30	.....
Rye	60	50	.....	45	30	.....
Grains in sheaf	85	100	40	50	15	.....
Flax (50), sugar beet (25), sorghum...	95	95	15	30	65	20
Tame grasses	100	90	35	50	20	.....
Rape, sorghum and other forage plants	100	80	10	10	25	10
Potatoes, ten varieties	90	70	40	60	50	40
Stock vegetables	90	80	20	30	50	20
Culinary vegetables	100	70	30	30	40	60
Fruits	40	45	15	15	25	20
Miscellaneous	100	60	10	50	30	20
Greatest number of varieties	100	80	15	30	20	10
Design and taste in arrangement....	270	250	150	125	125	150
Distance from fair grounds	500	120	500	100	350	100
Totals	2,020	1,620	905	920	1,065	475

COUNTY EXHIBITS.

Scores of the Exhibits of the Several Counties Represented.

	Waukesha.	Rock.	Barron.	Iowa.	Adams.	Taylor.
Wheat	40	30	70	25	60	80
Corn	95	85	25	60	80	30
Oats	75	50	30	30	25	85
Barley	85	35	30	25	.....	90
Peas	95	.....	80	.....	10	70
Rye	65	40	60	25	35	100
Grains in sheaf	90	45	40	30	25	80
Flax (50), sugar beet (25), sorghum..	80	35	50	70	.....	70
Tame grasses	70	40	35	15	60	90
Rape, sorghum and other forage plants	40	30	10	25	30	85
Potatoes, ten varieties	100	85	90	95	60	85
Stock vegetables	95	45	35	50	40	100
Culinary vegetables	80	70	30	45	50	75
Fruits	100	50	30	35	60	40
Miscellaneous	85	40	45	10	50	70
Greatest number of varieties	90	35	20	20	35	55
Design and taste in arrangement....	300	280	175	100	200	200
Distance from fair grounds	100	150	500	300	220	400
Totals	1,665	1,145	1,355	960	1,040	1,805

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BEES AND HONEY.

Judge—FRANK WILCOX, Mauston.

Italian bees.

First .....J. J. Ochsner, Prairie du Sac.
Second .....E. D. Ochsner, Prairie du Sac.

Carniolan bees.

First .....J. J. Ochsner.
Second .....E. D. Ochsner.

White comb honey.

First .....A. L. Kleeber, Reedsburg.
Second .....A. L. Kleeber.

Extracted white honey.

First .....A. L. Kleeber.
Second .....Mrs. Robt. Ramsey, Barahoo.

Amber comb honey.

First .....A. L. Kleeber.
Second .....A. L. Kleeber.

Extracted amber honey.

First .....Mrs. Robert Ramsey.
Second .....A. L. Kleeber.

Dark comb honey.

First .....A. L. Kleeber.
Second .....A. L. Kleeber.

Extracted dark honey.

First .....A. L. Kleeber.
Second .....A. L. Kleeber.

Most attractive display comb honey.

First .....A. L. Kleeber.

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Most attractive display of extracted honey.

First .....A. L. Kleeber.
Second .....Mrs. Robert Ramsey.

Show of bee's wax.

First .....A. L. Kleeber.
Second .....A. L. Kleeber.

Display of apiarian implements.

First .....E. D. Ochsner.

CULINARY.

Judge—Mrs. S. E. HOLMES, Watertown.

White bread.

First .....Mrs. T. P. Leonard, West Allis
Second .....Miss Pearl Bell, Milwaukee.

Indian bread.

First .....Mrs. Robert Ramsey, Baraboo.
Second .....Mrs. Susie Abert, Milwaukee.

Rye bread.

First .....Mrs. L. Yanke, Waukesha.
Second .....Caroline Schmasow, Milwaukee.

Graham bread.

First .....Miss Pearl Bell.
Second .....Mrs. L. Yanke.

Light rolls.

First .....Miss Pearl Bell.
Second .....Caroline Schmasow.

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Baking powder biscuits.

First .....Mrs. Wm. Sweeney, Fox Lake.
Second ..... Ella Leonard, Milwaukee.

Doughnuts.

First .....Ella Leonard.
Second .....Mrs. M. E. Kingsbury, Stevens Point.

Fruit cake.

First .....Mrs. Susie Abert.
Second .....Ella Leonard.

Nut cake.

First .....Mrs. Edw. Granger, Calhoun.
Second .....Mrs. W. P. Wegner, Milwaukee.

Chocolate cake.

First .....Miss Pearl Bell.
Second .....Mrs. Edw. Granger.

Angel's cake.

First .....Caroline Schmasow.
Second .....Ella Leonard.

Sunshine cake.

First .....Caroline Schmasow.
Second .....Mrs. Geo. Hambach, Jr., West Allis.

Torte cake.

First .....Mrs. Alice Le Feber, West Allis.
Second .....Mrs. W. P. Wegner.

Date cake.

First .....Miss Pearl Bell.
Second .....Mrs. Edw. Granger.

Layer chocolate cake.

First .....Clara M. Moyer, Milwaukee.
Second .....Miss Pearl Bell.

Layer cocoanut cake.

First .....Mrs. Edw. Granger.
Second .....Mrs. T. P. Leonard.

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Layer orange cake.

First ..... Miss Pearl Bell.
Second ..... Mrs. L. Yanke.

Layer fig cake.

First ..... Miss Pearl Bell.
Second ..... Ella Leonard.

White cookies.

First ..... Ella Leonard.
Second ..... Mrs. Susie Abert.

Dark cookies.

First ..... Miss Pearl Bell.
Second ..... Mrs. L. Yanke.

Apple pie.

First ..... Ella Leonard.
Second ..... Mrs. Edw. Granger.

Mince pie.

First ..... Mrs. L. Yanke.
Second ..... Mrs. Alice Le Feber.

Lemon pie.

First ..... Mrs. Edw. Granger.
Second ..... Mrs. Wm. Sweeney.

Saratoga chips.

First ..... Mrs. L. Yanke.
Second ..... Miss Julia Bader, Green Bay.

CANNED GOODS, ETC.

Canned peaches.

First ..... Ella Leonard, Milwaukee.
Second ..... Mrs. B. C. Ingersoll, Prospect.

Canned native plums.

First ..... Mrs. L. Yanke, Waukesha.
Second ..... Mrs. Geo. B. Smith, Green Bay.

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Canned currants.

First ..... Mrs. Jos. Haus, Jefferson.
Second ..... Ella Leonard.

Canned tomatoes.

First ..... Mrs. Jos. Haus.
Second ..... Mrs. L. Yanke.

Canned gooseberries.

First ..... Ella Leonard.
Second ..... Mrs. L. Yanke.

Canned red raspberries.

First ..... Mrs. L. Yanke.
Second ..... Mrs. Theo. L. Newton, Beaver Dam.

Canned black raspberries.

First ..... Mrs. Edw. Granger, Calhoun.
Second ..... Mrs. B. C. Ingersoll.

Canned strawberries.

First ..... Mrs. L. Yanke.
Second ..... Mrs. Jos. Haus.

Canned grapes.

First ..... Mrs. Geo. B. Smith.
Second ..... Mrs. Edw. Granger.

Canned blackberries.

First ..... Mrs. L. Yanke.
Second ..... Mrs. Jos. Haus.

Canned cherries.

First ..... Mrs. L. Yanke.
Second ..... Mrs. Jos. Haus.

Canned pears.

First ..... Mrs. B. C. Ingersoll.
Second ..... Mrs. Theo L. Newton.

Canned pineapple.

First ..... Mrs. B. C. Ingersoll.
Second ..... Mrs. Susie Abert.

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Native plum jelly.

First .....Mrs. B. C. Ingersoll.
Second .....Mrs. Geo. B, Smith.

Currant jelly.

First .....Mrs. B. C. Ingersoll.
Second .....Mrs. Theo L. Newton.

Red raspberry jelly.

First .....Mrs. Theo. L. Newton.
Second .....Mrs. B. C. Ingersoll.

Crab apple jelly.

First .....Mrs. B. C. Ingersoll.
Second .....Mrs. Edw. Granger.

Blackberry jelly.

First .....Mrs. B. C. Ingersoll.
Second .....Mrs. Edw. Granger.

Grape jelly.

First .....Mrs. B. C. Ingersoll.
Second .....Mrs. T. P. Leonard.

Quince jelly.

First .....Mrs. L. Yanke.
Second .....Mrs. B. C. Ingersoll.

Raspberry jam.

First .....Mrs. L. Yanke.
Second .....Mrs. B. C. Ingersoll.

Blackberry jam.

First .....Mrs. Alice Le Feber.
Second .....Mrs. L. Yanke.

Strawberry jam.

First .....Mrs. Jos. Haus.
Second .....Ella Leonard.

Native plum jam.

First .....Mrs. L. Yanke.
Second .....Mrs. G. Rood, Stevens Point.

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Crabapple pickles.

First ..... Ella Leonard.
Second ..... Mrs. B. C. Ingersoll.

Pickled peaches.

First ..... Mrs. B. C. Ingersoll.
Second ..... Mrs. Theo L. Newton.

Pickled pears.

Second ..... Mrs. B. C. Ingersoll.
Second ..... Mrs. Theo L. Newton.

Dill pickles.

First ..... Mrs. P. Wegner.
Second ..... Mrs. Edw. Granger.

Sour pickles.

First ..... Mrs. Alice Le Feber.
Second ..... Mrs. Jos. Haus.

Sweet cucumber pickles.

First ..... Mrs. Geo. B. Smith.
Second ..... Mrs. Jos. Haus.

Cauliflower pickles.

First ..... Mrs. L. Yanke.
Second ..... Mrs. B. C. Ingersoll.

Onion pickles.

First ..... Mrs. B. C. Ingersoll.
Second ..... Mrs. Susie Abert.

Mixed pickles.

First ..... Mrs. Edw. Granger.
Second ..... Mrs. Theo. L. Newton.

Mustard pickles.

First ..... Mrs. Jos. Haus.
Second ..... Mrs. B. C. Ingersoll.

Catsup.

First ..... Ella Leonard.
Second ..... Mrs. B. C. Ingersoll.

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Best and largest exhibit in class.

First .....Mrs. B. C. Ingersoll, Prospect.
Second .....Mrs. L. Yanke, Waukesha.

DAIRY.

Judge of Butter—JOHN MITTELSTADT, Chicago, Ill.
Judge of Cheese—E. L. ADERHOLD, Neenah.

SCORE OF BUTTER EXHIBITS.

Creamery butter.

	Score.
G. W. Allen, Batory	93
N. E. Anderson, Norseland, Minn.	91
H. E. Aldrich, Burlington	93
Frank Bower, Cazenovia	94
J. E. Boettcher, Guthrie	94
B. J. Bursch, St. Croix Falls	96
J. F. Brady, Deerfield, Minn.	94
H. Bast, Garnet	95½
R. P. Bjerregaard, Green Bay	96½
F. Blumenstein, Sullivan	95½
J. Bosuheimer, Withee	94½
Joseph Bast, Stockbridge	93
H. B. Berkholtz, Middleton	93
C. H. Christianson, De Forest	91
A. L. Covill, Nelsonville	93
W. H. Cafiish, Baraboo	97¾
Allen Carswell, Grange	94
C. J. Chapin, Omro	94½
T. Cornelinson, Cooksville	96½

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	Score.
E. L. Duxbury, Green Bay	92
A. H. Dowe, Fairwater	91
H. Donner, Dayton	93
Albert Erickson, Volga	96
B. J. Ellis, Stoughton	95½
Ole Esker, Bloomer	95½
L. J. Grellong, New Paynesville, Minn.	90
G. Glaus, Milwaukee	94
L. A. Goodchild, De Pere	92
S. Hoiburg, Oregon	96
H. B. Hoiberg, Floyd	96
A. B. Hoyt, Pewaukee	93½
H. Henrickson, Morrisonville	93½
W. R. Hoare, Mineral Point	92
B. F. Holbrook, Durand	97
F. W. Huth, Troy	94
H. V. Howland, Tarrant	92
W. J. Hyne, Evansville	97
F Imme, Tess Corners	94
R. Holcomb, Scandinavia (highest score)	98
W. Judevine, Gratiot	95
Fred Jaquith, Dartford	95½
J. E. Jones, North Andover	92
G. E. Jordan, Amherst	95
John Jensen, Berlin	93
W. E. Tucker, Slyvania	94½
M. G. Koepsell, Ridgeway, Minn.	95
C. M. Kates, Custer	96
J. E. Klokker, Markesan	96
G. Kruempel, Frankfort Station	91
O. A. Kielsmier, Hika	90½
R. Kinney, Dayton	93
F. H. Kelling, Colby	94½
E. C. McCormick, Plover	96
H. A. Milius, Almond	92
F. E. McCormick, Hetzel	95
M. B. Matson, Chetek	93
G. G. McIntosh, Whitewater	95½
W. E. Miller, Marshall	96
H. Moats, Mishmokwa	93
E. B. Melendy, Sheboygan Falls	96

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	Score.
A. C. Nelson, London, Minn.	95½
P. D. Nelson, Plover	87
O. Otterson, Deer Park	96½
T. O'Neill, Prospect	96½
C. Paulson, Verona	95
E. A. Paddock, Elkhorn	96
G. E. Peterson, New Holstein	89
Max Proctor, Portage	91
Pewaukee City Co., Pewaukee	97½
Robert Bros., Lake Odessa, Mich.	94½
C. F. Ruedebusch, Beaver Dam	96½
C. A. Squire, Elk Mound	95½
E. Samzelius, Schuyler, Neb.	96
A. C. Steinhauer, Stoughton	95½
W. A. Stewart, Eagle	96
D. F. Sullivan, Gratiot	97
Silver Springs City Co., Milwaukee	94½
Jno. Sollie, New Sweeden, Minn.	96½
Sheldon & Stiles, Lake Mills	90½
A. F. Strebe, Brothertown	96
A. H. Streber, Brothertown	93
A. E. Thompson, Poplar Grove, Ill.	94
W. A. Voigt, Naugart	91
C. H. Weber, Beaver Dam	94
J. F. Weber, Hartford	95
G. H. Weber, Beaver Dam	92
M. O. Wheelock, Independence, Iowa	95
B. Weber, Belleville	94
Jos. W. Webber, Rome	96½
Jno. Wunsch, Ash Ridge	95
Fred Wurthrich, Theresa	90½

Creamery print butter.

Henry Bast, Garnet	93
F. Bluemenstein, Sullivan	94
A. L. Covill, Nelsonville	96
W. H. Caflish, Baraboo	95
A. B. Hoyt, Pewaukee	96
W. J. Hyne, Evansville	96
W. Judevine, Gratiot	95
F. Jaquith, Dartford	95
G. E. Jordan, Amherst	94

Digitized by Google

	Score.
C. M. Kates, Custer	96½
T. O'Neill, Prospect (highest score)	97
Pewaukee Creamery Co., Pewaukee	96
C. F. Ruedebusch, Beaver Dam	96
Silver Spring Creamery Co., Milwaukee	95½
Sheldon & Stiles, Lake Mills	93
A. S. Strebe, Brothertown	95½

Dairy butter.

H. E. Aldrich, Burlington	93
Burwood Stock Farm, Milwaukee	94
Mrs. E. J. Czamanske, Randolph	93½
T. W. Curtis, Poynette	91½
M. D. Cunningham, Kansasville	93
E. W. Fisher, Janesville	90½
Murphy Bros., Prospect	92½
Wm. Sweeney, Fox Lake (highest score)	94½
A. P. Stafford, Fox Lake	90½
Sheldon & Stiles, Lake Mills	89
Mrs. A. L. Tenney, Hartland	93½
Wm. E. Wright, North Brookfield, Mass.	93

Dairy prints.

H. E. Aldrich, Burlington	93½
T. W. Curtis, Poynette	86½
E. W. Fisher, Janesville	85
Wm. Sweeney, Fox Lake	93½
Mrs. A. L. Tenney, Hartland (highest score)	94

Granular butter.

First	Henry Bast, Garnet, Wis.
Second	Burwood Stock Farm, Milwaukee.
Third	Pewaukee Creamery Co., Pewaukee.
Fourth	C. F. Ruedebusch, Beaver Dam.

Butter in novel forms.

First	Mrs. A. L. Tenney, Hartland.

Digitized by Google

SCORE OF CHEESE EXHIBITS.

	Score.
Cheddars.	
J. F. Bachman, Black Creek	93
R. Conrad, Cleveland	96½
John Cannon, New London	96¾
C. H. Cox, Livingston	94¾
S. D. Cannon, Dale	97½
M. G. Douma, Cleveland	96¾
Wm. Emison, La Crosse	96¼
A. E. Helmer, Evans Mills, N. Y.	94¾
P. H. Kasper, Clintonville	96
O. A. Kielsmeier, Hika	97
La Crosse Butter & Cheese Co., La Crosse	95½
C. B. Moore, Balmoral	92¼
H. Nisbet, Buck Creek	92½
H. S. Paul, Milwaukee	97
N. Simons, Neenah	95½
E. Thompson, La Crosse	93
Joe Vogt, Orihula (highest score)	98
Wm. Zwicky, Van Dyne	94¾
Ed. Wunsch, Sheboygan	93½
Chas. Westcott, Orihula	95½
Flats or daisies.	
J. G. Aune, Baldwin	94½
Anton Benishek, Manitowoc	95½
J. F. Bachman, Black Creek (highest score)	98½
C. W. Baetz, Dundee	95¾
Julius Berg, Sturgeon Bay	96½
C. H. Cornelius, Boom	98
R. Conrad, Cleveland	93
J. C. Chalupnik, Tisch Mills	96
J. Cannon, New London	96¼
C. H. Cox, Livingston	97
R. B. Cartwright, Cadott	97½
M. G. Douma, Cleveland	95
Wm. Emison, La Crosse	96¾
H. F. Ganshow, Landstad	95½
Gentilly Dairy Assoc., Gentilly, Minn.	96½
W. H. Graskamp, Filmore	94½
A. E. Helmer, Evans Mill, N. Y.	97¼

Digitized by Google

	Score.
Geo. Hornick, Rhine	97½
Fred Hadler, Appleton	95
La Crosse Butter & Cheese Co., La Crosse	95
O. A. Kielsmeier, Hika	95¾
E. J. Keyes, Cascade	96¾
E. E. Lindner, Jericho	95½
C. B. Moore, Balmoral	93½
M. McKinney, Boscobel	95½
F. J. Mulvey, Hingham	94¾
H. Nisbet, Buck Creek	94
John Nelson, Cadott	95¼
A. W. Parkin, Canton, Minn.	95¼
P. H. Peacock, Sheboygan	96½
H. B. Stanz, Milwaukee	91
J. A. Schaifer, Prairie Farm	95¾
John Snyder, Brant	91
B. G. Schaefer, Darlington	88
N. Simons & Co., Neenah	97
S. Uglow, Richfield, Minn.	93
F. A. Viergutz, Chippewa Falls	97
L. F. Voigt, Kiel	92½
D. Van Allmen, Wheeler	94½
John Vogt, Orihula	95½
Joe Vogt, Orihula	97¾
W. S. Walsh, Oshkosh	96½
Ed. Wunsch, Sheboygan	94¼
Wm. Zwicky, Van Dyne	94¼
J. D. Schmitz, Elkhart	97½
Albert Schmidt, Fond du Lac	92½

Young Americas.

R. Conrad, Cleveland	97¼
J. Chalupnik, Tisch Mills	94
H. Anderson, Sheboygan Falls	97
M. J. Douma, Cleveland	95½
Erdman Doll, Erdman	96¾
F. A. Gaedke, Rio Creek	91¼
A. E. Helmer, Evans Mills, N. Y. (highest score)	98
J. R. Hernke, Hilbert	92
John Hoeppner, Marion	97½
O. A. Kielsmeier, Hika	97½
E. J. Keyes, Cascade	96¾

Digitized by Google

	Score.
E. E. Lindner, Jericho	97½
C. B. Moore, Balmoral	97
F. J. Mulvey, Hingham	97½
H. Nisbet, Buck Creek	91½
P. H. Peacock, Sheboygan	94½
H. M. Scott, Sheboygan Falls	97
J. D. Schmitz, Elkhart	96
L. F. Voigt, Kiel	97¼
Emil Widder, Ersdman	97
Ed. Wunsch, Sheboygan	97¾
Wm. Zwicky, Van Dyne	96

Bricks.

C. F. Brinkman, Brinkmans	96¾
Jacob Boehler, Beaver Dam	95
H. Bilgrien, Iron Ridge	97½
Sam. Boehler, Cambria	96
L. Guth & Co., Ackerville	96
R. C. Ganschow, Bonduel (highest score)	98
J. R. Hernke, Hilert	96½
J. J. Reid, Oconomowoc	94¾
H. B. Stanz, Milwaukee	95½

Swiss.

H. B. Stanz, Milwaukee	94
Stauffacker & Roth, Monroe (highest score)	96½
G. Vogel, Mt. Horeb	92¾

Digitized by Google

HORTICULTURE.

Judge—Prof. SAMUEL B. GREEN, St. Anthony Park, Minn.

Fruit.

APPLES—PROFESSIONAL.

Twenty varieties, adapted to Wisconsin.

First ..... Chas. Hirschinger, Baraboo.
Second ..... Wm. Fox, Baraboo.
Third ..... F. H. Chappel, Oregon.

Ten varieties, adapted to Wisconsin.

First ..... Chas. Hirschinger.
Second ..... F. H. Chappel.
Third ..... Wm. Fox.

Five varieties, winter.

First ..... Wm. Fox.
Second ..... F. H. Chappel.
Third ..... Chas. Hirschinger.

Seedlings.

First ..... Chas. Hirschinger.
Second ..... F. H. Chappel.
Third ..... A. D. Barnes, Waupaca.

Winter apple.

First ..... Wm. Fox.
Second ..... A. D. Barnes.
Third ..... F. H. Chappel.

Fall apple.

First ..... Wm. Fox.
Second ..... A. D. Barnes.
Third ..... Chas. Hirschinger.

Digitized by Google

Largest apple.

First ..... Wm. Fox.
Second ..... F. H. Chappel.
Third ..... Chas. Hirschinger.

Handsomest apple.

First ..... Wm. Fox.
Second ..... F. H. Chappel.
Third ..... Chas. Hirschinger.

Plate Duchess of Oldenburg.

First ..... F. H. Chappel.
Second ..... Wm. Fox.

Plate Golden Russet.

First ..... Wm. Fox.
Second ..... Chas. Hirschinger.

Plate Pewaukee.

First ..... Wm. Fox.
Second ..... A. D. Barnes.

Plate St. Lawrence.

First ..... Wm. Fox.
Second ..... Chas. Hirschinger.

Plate Tallman Sweet.

First ..... Wm. Fox.
Second ..... Chas. Hirschinger.

Plate Utter.

First ..... F. H. Chappel.
Second ..... Chas. Hirschinger.

Plate Alexander.

First ..... Wm. Fox.
Second ..... Chas. Hirschinger.

Plate Walbridge.

First ..... A. D. Barnes.
Second ..... F. H. Chappel.

Digitized by Google

Plate Wealthy.

First .....Wm. Fox.
Second .....F. H. Chappel.

Plate McMahon.

First .....Wm. Fox.
Second .....F. H. Chappel.

Plate Newell.

First .....Wm. Fox.
Second .....F. H. Chappel.

Plate Wolf River.

First .....A. D. Barnes.
Second .....Wm. Fox.

Plate N. W. Greening.

First .....Wm. Fox.
Second .....A. D. Barnes.

Plate Haas.

First ..... Chas. Hirschinger.
Second .....A. D. Barnes.

Plate Fall Orange.

First .....F. H. Chappel.
Second ..... Chas. Hirschinger.

Plate Repka Malenka.

First .....Wm. Fox.
Second .....F. H. Chappel.

Plate Longfield.

First .....F. H. Chappel.
Second .....Wm. Fox.

Plate Yellow Transparent.

First .....F. H. Chappel.
Second .....Wm. Fox.

Plate Hibernal.

First .....Wm. Fox.
Second .....A. D. Barnes.

Digitized by Google

Plate Windsor.

First ..... Wm. Fox.
Second ..... A. D. Barnes.

Plate Fameuse.

First ..... F. H. Chappel.
Second ..... A. D. Barnes.

Plate McIntosh.

First ..... Wm. Fox.

Plate Switzer.

First ..... F. H. Chappel.
Second ..... A. D. Barnes.

Plate Seek-no-further.

First ..... Chas. Hirschinger.
Second ..... Wm. Fox.

Plate Avista.

First ..... Wm. Fox.

Plate Malinda.

First ..... A. D. Barnes.
Second ..... Wm. Fox.

Plate Hyslop crab.

First ..... F. H. Chappel.
Second ..... A. D. Barnes.

Plate Transcendent crab.

First ..... Chas. Hirschinger.
Second ..... A. D. Barnes.

Plate Whitney crab.

First ..... F. H. Chappel.
Second ..... Chas. Hirschinger.

Plate Sweet Russet crab.

First ..... F. H. Chappel.
Second ..... Chas. Hirschinger.

Plate Martha crab.

First ..... A. D. Barnes.

Digitized by Google

Plate Virginia crab.

First ..... A. D. Barnes.

Collection of crab apples.

First ..... Wm. Fox.
Second ..... F. H. Chappel.
Third ..... Chas. Hirschinger.

APPLES—NON-PROFESSIONAL.

Twenty varieties adapted to Wisconsin.

First ..... Mrs. Robt. Ramsey, Baraboo.
Second ..... Jay S. Palmer, Baraboo.
Third ..... Kelly Bros., Mineral Point.

Ten varieties adapted to Wisconsin.

First ..... Mrs. Robt. Ramsey.
Second ..... Jay S. Palmer.
Third ..... J. L. Schultz, Lake Mills.

Five varieties for winter.

First ..... Mrs. Robt. Ramsey.
Second ..... Jay S. Palmer.
Third ..... Kelly Bros.

Seedlings.

First ..... Mrs. Robt. Ramsey.
Second ..... Geo. Jeffrey, Milwaukee.
Third ..... Jay S. Palmer.

Winter apple.

First ..... Mrs. Robt. Ramsey.
Second ..... Kelly Bros.
Third ..... A. L. Kleeber, Reedsburg.

Fall apple.

First ..... Mrs. Robt. Ramsey.
Second ..... Jay S. Palmer.
Third ..... J. L. Schultz.

Digitized by Google

Largest apple.

First ..... J. L. Schultz.
Second ..... Jay S. Palmer.
Third ..... Mrs. Edw. Granger, Calhoun.

Handsomest apple.

First ..... Mrs. Robt. Ramsey.
Second ..... Jay S. Palmer.
Third ..... J. L. Schultz.

Plate Duchess of Oldenburg.

First ..... Mrs. Edw. Granger.
Second ..... Geo. Jeffrey.

Plate Golden Russet.

First ..... J. S. Palmer.
Second ..... Mrs. B. C. Ingersoll, Prospect.

Plate Pewaukee.

First ..... Mrs. Robt. Ramsey.
Second ..... Jay S. Palmer.

Plate St. Lawrence.

First ..... Mrs. Robt. Ramsey.
Second ..... Jay S. Palmer.

Plate Tallman Sweet.

First ..... J. S. Palmer.
Second ..... Kelly Bros.

Plate Utter.

First ..... J. L. Schultz.
Second ..... Jay S. Palmer.

Plate Alexander.

First ..... W. S. Hager, West De Pere.
Second ..... Mrs. B. C. Ingersoll.

Plate Walbridge.

First ..... J. S. Palmer.
Second ..... J. L. Schultz.

Digitized by Google

Plate Wealthy.

First .....J. S. Palmer.
Second .....Mrs. Robt. Ramsey.

Plate McMahon.

First .....J. S. Palmer.
Second .....Mrs. Robt. Ramsey.

Plate Newell.

First .....Mrs. Robt. Ramsey.
Second .....Jay S. Palmer.

Plate Wolf River.

First .....J. L. Schultz.
Second .....Jay S. Palmer.

Plate N. W. Greening.

First .....J. L. Schultz.
Second .....Mrs. Robt. Ramsey.

Plate Haas.

First .....J. L. Schultz.
Second .....M. J. Moyle, Yorkville.

Plate Fall Orange.

First .....Mrs. Robt. Ramsey.
Second .....Jay S. Palmer.

Plate Repla Malenka.

First .....Mrs. Robt. Ramsey.
Second .....Jay S. Palmer.

Plate Longfield.

First .....Mrs. Robt. Ramsey.
Second .....J. L. Schultz.

Plate Yellow Transparent.

First .....W. J. Moyle.
Second .....Jay S. Palmer.

Plate Hibernal.

First .....Kelly Bros.
Second .....Mrs. Robt. Ramsey.

Digitized by Google

Plate Windsor.

First .....W. J. Moyle.
Second .....Kelly Bros.

Plate Switzer.

First .....Mrs. Robt. Ramsey.
Second .....Geo. Jeffrey.

Plate Seek-no-farther.

First .....J. L. Schultz.
Second .....Mrs. Robt. Ramsey.

Plate Melinda.

First .....Kelly Bros.

Plate Fameuse.

First .....Mrs. Robt. Ramsey.
Second .....Henry Schuster, Middleton.

Plate McIntosh.

First .....Mrs. Robt. Ramsey.

Plate Hyslop crabs.

First .....Mrs. Robt. Ramsey.
Second .....Henry Schuster.

Plate Transcendent crabs.

First .....Mrs. Robt. Ramsey.
Second .....Geo. Jeffrey.

Plate Whitney crabs.

First .....Mrs. Robt. Ramsey.
Second .....Henry Schuster.

Plate Sweet Russet crabs.

First .....Mrs. Robt. Ramsey.
Second .....Geo. Jeffrey.

Plate Martha crabs.

First .....Mrs. Robt. Ramsey.
Second .....Geo. Jeffrey.

Plate Virginia crabs.

First .....Geo. Jeffrey.

Digitized by Google

Collection of crab apples.

First .....Mrs. Robt. Ramsey.
Second ..... Geo. Jeffrey.
Third .....Kelly Bros.

Best and largest show of apples.

First ..... Mrs. Robt. Ramsey, Baraboo.
Second .....Wm. Fox, Baraboo.
Third .....Chas. Hirschinger, Baraboo.

Wisconsin State Horticultural Society special.

First ..... Mrs. Robt. Ramsey, Baraboo.
Second .....F. H. Chappel, Oregon.
Third .....Chas. Hirschinger, Baraboo.

PEARS.

Collection.

First .....Geo. Jeffrey, Milwaukee.
Second .....J. L. Schultz, Lake Mills.
Third .....W. J. Moyle, Yorkville.

Plate Flemish Beauty.

First .....Jay S. Palmer, Baraboo.
Second .....J. L. Schultz.

Plate Kieffer.

First .....J. S. Palmer.
Second ..... Wm. Fox, Baraboo.

Plate Seckel.

First .....Henry Schuster, Middleton.
Second .....Wm. J. Moyle.

Plate Duchess.

First .....Geo. Jeffrey.
Second .....Wm. J. Moyle.

Digitized by Google

Plate Vermont Beauty.

First ..... J. L. Schultz.
Second ..... F. H. Chappel, Oregon.

Plate Wilder.

First ..... J. L. Schultz.
Second ..... Wm. J. Moyle.

PLUMS.

Collection.

First ..... Geo. Jeffrey, Milwaukee.
Second ..... Mrs. Robt. Ramsey, Baraboo.

Five varieties.

First ..... F. H. Chappel.
Second ..... Mrs. Robt. Ramsey.
Third ..... Kelly Bros.

Five varieties European plums.

First ..... Geo. Jeffrey.

GRAPES—PROFESSIONAL.

A full exhibit was made, and all premiums taken by William Fox, Baraboo.

GRAPES—NON-PROFESSIONAL.

Twenty varieties.

First ..... Henry Schuster, Middleton.

Ten varieties adapted to Wisconsin.

First ..... Henry Schuster.
Second ..... Geo. Jeffrey, Milwaukee.

Five varieties, adapted to Wisconsin.

First ..... Henry Schuster.
Second ..... Mrs. Robt. Ramsey.

Digitized by Google

Single variety, quality to rule.

First .....Henry Schuster.
Second .....Geo. Jeffrey.

Cane of Worden.

First .....Mrs. Robt. Ramsey.
Second .....Henry Schuster.

Cane of Delaware.

First .....Mrs. Robt. Ramsey.

Cane of Brighton.

First .....Henry Schuster.

Cane of Concord.

First .....Henry Schuster.
Second .....Mrs. Robt. Ramsey.

Plate of Niagara.

First .....Geo. Jeffrey.

Plate of Agawam.

First .....Henry Schuster.

Plate of Worden.

First .....Henry Schuster.
Second .....Mrs. Robt. Ramsey.

Plate of Brighton.

First .....Henry Schuster.
Second .....Mrs. Robt. Ramsey.

Plate of Concord.

First .....Henry Schuster.
Second .....Mrs. Robt. Ramsey.

Plate of Wilder.

First .....Henry Schuster.

Plate of Delaware.

First .....Henry Schuster.
Second .....Mrs. Robt. Ramsey.

Digitized by Google

Plate of Telegraph.

First ..... Henry Schuster.

PLANTS AND FLOWERS—PROFESSIONAL.

Judge—WILLIAM TOOLE, Baraboo.

Collection of greenhouse plants.

First .....John M. Dunlap, Milwaukee.
Second .....Alex. Klockner, Milwaukee.

Show of foliage plants.

First .....John Grape, Waukesha.
Second ..... John M. Dunlap.

Display of Palms.

First .....Alex. Klokner.
Second ..... John M. Dunlap.

Greenhouse plants in bloom.

First .....John M. Dunlap.
Second .....Alex. Klokner.

Display of ferns.

First .....John M. Dunlap.
Second .....Alex. Klokner.

Geraniums in bloom.

First .....John Grape.
Second ..... John M. Dunlap.

Carnations in bloom.

First .....John M. Dunlap.
Second ..... John M. Dunlap.

Digitized by Google

CUT FLOWERS.

Most artistically arranged floral design.

First ..... John M. Dunlap.

Most artistically arranged basket of flowers.

First ..... John M. Dunlap.

Boquet.

First ..... John M. Dunlap.

Display of roses.

First ..... John M. Dunlap.

Display of pansies.

First ..... John M. Dunlap.
Second ..... John Grape.

Display of asters.

First ..... John M. Dunlap.
Second ..... S. D. Ringrose.

Display of gladiolus.

First ..... John M. Dunlap.
Second ..... John Grape.

Display of carnations.

First ..... John M. Dunlap.
Second ..... John Grape.

Display of lilies.

First ..... John Grape.

Display of dahlias.

First ..... John M. Dunlap.
Second ..... John Grape.

Display of cannas.

First ..... John M. Dunlap.
Second ..... John Grape.

Digitized by Google

Display of cut flowers.

First .....John M. Dunlap, Milwaukee.
Second .....John Grape, Waukesha.

PLANTS AND FLOWERS—NON-PROFESSIONAL.

Collection of greenhouse plants.

First .....Pauline Jeske, Milwaukee.

Foliage plants.

First .....Pauline Jeske.

Display of ferns.

First ..... Pauline Jeske.

CUT FLOWERS.

Most artistically arranged floral design.

First .....Mrs. John J. Hannan, Milwaukee.
Second .....Mrs. L. W. Barnes, Waupaca.

Most artistically arranged basket of flowers.

First .....Mrs. John J. Hannan.
Second .....Mrs. L. W. Barnes.

Pair of boquets.

First .....Mrs. L. W. Barnes.
Second .....Mrs. John J. Hannan.

Display of roses.

First ..... Pauline Jeske.
Second .....Mrs. L. W. Barnes.

Display of verbenas.

First .....Mrs. L. W. Barnes.
Second ..... Pauline Jeske.

Digitized by Google

Display of asters.

First ..... Mrs. John J. Hannan.
Second ..... Mrs. L. W. Barnes.

Display of pansies.

First ..... Mrs. L. W. Barnes.

Display of dianthus.

First ..... Mrs. L. W. Barnes.
Second ..... Pauline Jeske.

Display of petunias, single.

First ..... Mrs. L. W. Barnes.
Second ..... Pauline Jeske.

Display of petunias, double.

First ..... Pauline Jeske.
Second ..... Mrs. L. W. Barnes.

Display of gladiolus.

First ..... Mrs. L. W. Barnes.
Second ..... Pauline Jeske.

Display of lilies.

First ..... Mrs. L. W. Barnes.
Second ..... Pauline Jeske.

Display of sweet peas.

First ..... Mrs. L. W. Barnes.
Second ..... Pauline Jeske.

Display of phlox drummondi.

First ..... Mrs. L. W. Barnes.

Display of zinnias.

First ..... Mrs. L. W. Barnes.
Second ..... Pauline Jeske.

Display of dahlias.

First ..... Mrs. L. W. Barnes.
Second ..... Pauline Jeske.

Digitized by Google

Display of cannas.

First .....Mrs. L. W. Barnes.
Second ..... Pauline Jeske.

Display of cut flowers.

First .....Mrs. L. W. Barnes, Waupaca.
Second .....Pauline Jeske, Milwaukee.

ART.

Judges—ROBERT SCHADE, Milwaukee.
Mrs. GEORGE HAWES, Waukesha.

— —

OIL PAINTINGS.

Landscape from nature.

First .....Harry W. Barnitz, Urbana, Ohio.
Second .....J. M. Chenoweth, Monroe.

Landscape copied.

First .....Minnie B. Akass, Chicago, Ill.
Second .....Mrs. Anna E. Pierce, Milwaukee.

Portrait from life.

First .....Minnie B. Akass.
Second .....Adeline B. Bellman, Fort Atkinson.

Portrait copied.

First .....Mrs. Anna E. Pierce.
Second .....Miss A. W. Bankes, Waukesha.

Animal.

First ..... J. M. Chenoweth.
Second .....Mrs. L. M. Buell, Beloit.

Still life.

First .....Miss Irma Heller, Milwaukee.
Second .....Mrs. W. W. Lloyd, Milwaukee.

Digitized by Google

Marine.

First .....Mrs. W. W. Lloyd.
Second .....Mrs. Geo. K. Wainwright, Benton Harbor, Mich.

Figuro from life.

First .....Harry W. Barnitz.
Second .....Mrs. L. M. Buell.

Figure copied.

First .....J. M. Chenoweth.
Second .....Miss A. W. Bankes.

Fruit piece.

First .....Mrs. O. Pratt, Spring Prairie.
Second .....Miss Irma Heller.

Flower piece.

First .....Minnie B. Akass.
Second .....Miss Irma Heller.

Collection.

First .....Harry W. Barnitz, Urbana, Ohio.
Second .....Minnie B. Akass, Chicago, Ill.

WATER COLORS.

Landscape from nature.

First .....L. M. Churbuck, Brockton, Mass.
Second .....Joe L. Frank, Des Moines, Iowa.

Landscape copied.

First .....Joe L. Frank.
Second .....Grace B. Ricker, Milwaukee.

Figure from life.

First .....Miss A. W. Bankes.

Figure copied.

First .....Mrs. Jennie E. Holt, Markesan.
Second .....Minnie B. Akass, Chicago, Ill.

Digitized by Google

Animal.

First .....Harry W. Barnitz, Urbana, Ohio.
Second .....Grace B. Ricker.

Marine.

First .....Mrs. Jennie E. Holt.
Second .....Mrs. Geo. K. Wainwright, Benton Harbor, Mich.

Still life.

First .....Mrs. O. Pratt, Spring Prairie.
Second .....Joe L. Frank.

Portrait.

First .....Harry W. Barnitz.

Fruit.

First .....Joe L. Frank.
Second .....Jos. Kallaus, Milwaukee.

Flower.

First .....Mrs. Jennie E. Holt.
Second .....Jos. Kallaus.

Collection.

First .....L. M. Churbuck, Brockton, Mass.
Second .....Grace B. Ricker, Milwaukee.

PASTEL.

Landscape.

First .....Mrs. Geo. K. Wainwright, Benton Harbor, Mich.

Marine.

First .....Minnie B. Akass, Chicago, Ill.

Fruit.

First .....Mrs. Geo. K. Wainwright.
Second .....Minnie B. Akass.

Flower.

First .....J. M. Chenoweth, Monroe.

Digitized by Google

Figure.

First .....Harry W. Barnitz, Urbana, Ohio.

Still life.

First ..... J. M. Chenoweth.

Animal.

First .....Harry W. Barnitz.

Collection.

First .....J. M. Chenoweth, Monroe.
Second .....Harry W. Barnitz, Urbana, Ohio.

PHOTOGRAPHY.

Group of landscapes.

First .....Minnie B. Akass, Chicago, Ill.
Second .....Mrs. L. M. Buell, Beloit.

Group of animal pictures.

First ..... Minnie B. Akass.

Group of snap-shot pictures.

First ..... Minnie B. Akass.
Second .....Mrs. L. M. Buell.

Collection of pictures.

First .....Mrs. L. M. Buell, Beloit.
Second .....Minnie B. Akass, Chicago, Ill.

CHINA PAINTING.

Set bread and butter plates.

First .....Mrs. Jennie E. Holt, Markesan.
Second .....Wanda Buetow, Milwaukee.

Cup and saucer.

First .....Wanda Buetow.
Second .....Miss Lucile Cooke, Waukesha.

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Fancy plate.

First .....Wanda Buetow.
Second .....Jos. Kallaus, Milwaukee.

Pin or pen tray.

First .....Jos. Kallaus.
Second .....Miss Lucile Cooke.

Olive dish.

First .....Wanda Buetow.
Second .....Caroline Starkey, Milwaukee.

Cracker jar.

First .....Mrs. L. M. Buell, Beloit.
Second .....Mrs. Anna E. Pierce, Milwaukee.

Candle stick.

First .....Mrs. W. W. Lloyd, Milwaukee.
Second .....Miss Lucile Cooke.

Salad dish.

First ..... Caroline Starkey.
Second .....Mrs. Anna E. Pierce.

Vase.

First ..... Mrs. L. M. Buell.
Second .....Lucile Cooke.

Platter.

First .....Wanda Buetow.
Second .....Miss E. E. Gibson, Waupaca.

Tankard.

First .....Mrs. Anna E. Pierce.
Second .....Mrs. L. M. Buell.

Pitcher.

First .....Miss E. E. Gibson.
Second .....Mrs. Anna E. Pierce.

Lamp.

First .....Mrs. Jennie E. Holt.

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Tea caddy.

First ..... Mrs. L. M. Buell.

Six cups and saucers.

First ..... Miss Lucile Cooke, Waukesha.
Second ..... Mrs. Anna E. Pierce.

Six lunch plates.

First ..... Mrs. W. W. Lloyd.
Second ..... Jos. Kallaus.

Chocolate pot.

First ..... Mrs. Jennie E. Holt.
Second ..... Mrs. W. W. Lloyd.

Bread and milk set.

First ..... Mrs. W. W. Lloyd.
Second ..... Mrs. W. E. Kingsbury, Stevens Point.

Cream and sugar set.

First ..... Wanda Buetow.
Second ..... Mrs. Jennie E. Holt.

Punch bowl.

First ..... Jos. Kallaus.
Second ..... Mrs. Anna E. Pierce.

Brush and comb tray.

First ..... Jos. Kallaus.
Second ..... Caroline Starkey.

Fruit dish.

First ..... Jos. Kallaus.
Second ..... Caroline Starkey.

Portrait on china.

First ..... Mrs. W. W. Lloyd.
Second ..... Jos. Kallaus.

Chop dish.

First ..... Mrs. Jennie E. Holt.
Second ..... Mrs. L. M. Buell.

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Bonbon dish.

First .....Mrs. W. W. Lloyd.
Second .....Mrs. Jennie E. Holt.

Jardinere.

First .....Mrs. Anna E. Pierce.
Second .....Wanda Buetow.

Collection.

First .....Mrs. Anna E. Pierce, Milwaukee.
Second .....Jos. Kallaus, Milwaukee.

MISCELLANEOUS.

Miniature on ivory.

First .....Jos. Kallaus, Milwaukee.
Second .....Clara Kellogg, Westfield, Mass.

Burnt leather.

First .....Adeline B. Bellman, Fort Atkinson.
Second .....J. M. Chenoweth, Monroe.

Burnt poker work.

First .....Adeline B. Bellman.
Second .....Frank A. Smith, Wauwatosa.

Painting on velvet.

First .....Adeline B. Bellman.
Second .....Adeline B. Bellman.

Painting on silk or satin.

First .....Mrs. Price Rood, Milwaukee.
Second .....Minnie B. Akass, Chicago, Ill.

Painting on bolting cloth.

First .....Mrs. L. M. Buell, Beloit.
Second .....Mrs. A. Kingsbury, Beaver Dam.

Pen and ink sketching.

First .....Mrs. Price Rood.
Second .....Miss Irma Keller.

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WOMAN'S WORK.

Judge—Mrs. L. ESSER, Madison.

DRAWN WORK.

Pair pillow shams.

First .....Mrs. Hy. Fischer, Jefferson.
Second .....J. M. Chenoweth, Monroe.

Six doilies.

First .....Meta L. Baker, Peoria, Ill.
Second .....Mrs. Hy. Fischer.

Lunch or table cloth, and six doilies.

First .....Tena Fromader, Watertown.
Second .....Mrs. Hy. Fischer.

Sideboard cover.

First .....Mrs. Hy. Fischer.
Second .....Tena Fromader.

Centerpiece or stand cover.

First .....J. M. Chenoweth.
Second .....Mrs. Hy. Fischer.

Tray or carving cloth.

First .....Mrs. Hy. Fischer.
Second .....Mrs. A. Kingsbury, Beaver Dam.

Pair towels.

First .....Mrs. G. Rood, Stevens Point.
Second .....Mrs. A. Kingsbury.

Three handkerchiefs.

First .....Tena Fromader.
Second .....Mrs. G. Rood.

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Collection drawn work.

First .....Ten Fromader, Watertown.
Second .....Mrs. Hy. Fischer, Jefferson.

EMBROIDERY.

Centerpiece.

First .....Mrs. G. L. Cameron, Kenosha.
Second .....Mrs. John Nicholson, Monroe.

Pillow shams.

First .....Clara Kellogg, Westfield, Mass.
Second .....J. M. Chenoweth, Monroe.

Lunch cloth.

First .....Meta L. Baker, Peoria, Ill.
Second .....Mrs. John Nicholson.

Stand or table cover.

First .....Mrs. A. Kingsbury, Beaver Dam.
Second .....Meta L. Baker.

Necktie case.

First .....Clara L. Kellogg.
Second .....Karoline Schmasow, Milwaukee.

Handmade underwear.

First .....Mrs. G. Rood, Stevens Point.
Second .....Clara Kellogg.

Baby pillow.

First .....Clara Kellogg.
Second .....Mrs. John Nicholson.

Sofa pillow on linen.

First .....Caroline Schmasow.
Second .....Mrs. Susie Abert, Milwaukee.

Sofa pillow on silk or satin.

First .....Meta L. Baker.
Second .....Miss Mattie Hall, Lexington, Ky.

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Sofa pillow in cross stitch.

First .....Mrs. John Nicholson.

Sofa pillow in couching.

First .....Mrs. A. Kingsbury.
Second .....Caroline Schmasow.

Photo frame.

First .....Meta L. Baker.
Second .....Mrs. A. Kingsbury.

Pin cushion.

First .....Mrs. A. Kingsbury.
Second .....Clara Kellogg.

Poster sofa pillow.

Second .....Viola Abert, Milwaukee.

Mt. Mellick centerpiece or table cover.

First .....Mrs. Susie Abert, Milwaukee.
Second .....Ella Leonard, Milwaukee.

Stand cover in Bulgarian embroidery.

First .....Mrs. John Nicholson.
Second .....Clara Kellogg.

Set six tumbler doilies.

First .....Mrs. John Nicholson.
Second .....Clara Kellogg.

Set plate doilies.

First .....Mrs. John Nicholson.
Second .....Clara Kellogg.

Whisk broom holder.

First .....Miss Amanda M. Bissman, Beaver Dam.
Second .....Mrs. A. Kingsbury.

Carving cloth.

First .....Meta L. Baker.
Second .....Clara Kellogg.

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Handkerchief.

First .....Mrs. G. Rood.
Second .....Mrs. John Nicholson.

Handkerchief case.

First .....Mrs. Susie Abert.
Second .....Miss Amanda M. Bissman.

Glove case.

First .....J. M. Chenoweth.
Second .....Caroline Schmasow.

Laundry bag.

First .....Mrs. G. Good.
Second .....Meta L. Baker.

Stocking bag.

First .....Caroline Schmasow.
Second .....Meta L. Baker.

Magazine or book cover.

First .....J. M. Chenoweth.
Second .....Caroline Schmasow.

Sideboard cover.

First .....Meta L. Baker.
Second .....Caroline Schmasow.

LACES, ETC.

Battenburg bolero or jacket.

First .....Miss Amanda M. Bissman, Beaver Dam.
Second .....Mrs. Price Rood, Milwaukee.

Battenburg centerpiece.

First .....Miss Amanda M. Bissman.
Second .....A. C. Tuthill, Monroe.

Battenburg dresser set.

First .....Miss Amanda M. Bissman.
Second .....Viola Abert, Milwaukee.

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Battenburg curtains.

First .....Mrs. S. A. Stockwell, Waukesha.

Battenburg yoke or collar.

First .....A. C. Tuthill.
Second .....Miss Amanda M. Bissman.

Antique.

First .....Mrs. W. P. Wegner, Milwaukee.
Second .....A. C. Tuthill.

Point lace collar.

First .....A. C. Tuthill.
Second .....Mrs. A. Gulick, Woodworth.

Point lace doily.

First .....Mrs. J. C. Price, Milwaukee.
Second .....Miss Amanda M. Bissman.

Point lace handkerchief.

First .....Mrs. J. C. Price.
Second .....Mrs. S. A. Stockwell.

Honiton centerpiece.

First .....Mrs. John Nicholson.
Second .....Miss Amanda M. Bissman.

Honiton lace.

First .....A. C. Tuthill.
Second .....Clara Kellogg.

Honiton lace toilet mats.

First .....Mrs. John Nicholson.
Second .....A. C. Tuthill.

Honiton lace handkerchief.

First .....Mrs. J. C. Price.
Second .....Mrs. John Nicholson.

Tatting collar.

First .....A. C. Tuthill.
Second .....Mrs. L. C. Huckstep, Bowling Green.

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Tatting handkerchief.

First .....Mrs. Alice Le Feber, West Allis.
Second .....Mrs. J. C. Price.

Applique embroidery or lace.

First .....A. C. Tuthill.
Second .....Ida Bading, Milwaukee.

Netted lace handkerchief.

First .....A. C. Tuthill.
Second .....Tena Fromader, Watertown.

Honiton applique.

First .....Mrs. J. C. Price.
Second .....Mrs. A. Kingsbury, Beaver Dam.

Handmade handkerchiefs.

First .....Miss Amanda M. Bissman.
Second .....Mrs. J. C. Price.

Hand-made lace tie.

First .....Clara M. Moyer, Milwaukee.
Second .....Clara Kellogg.

KNITTING.

Fancy shawl.

First .....Clara Kellogg, Westfield, Mass.
Second .....Mrs. A. Gulick; Woodworth.

Silk mittens.

First .....Miss Mattie Hall, Lexington, Ky.
Second .....Mrs. William Sweeney, Fox Lake.

Lady's underskirt.

Second .....Mrs. John Nicholson, Monroe

Slippers or shoes.

First .....Mrs. John Nicholson.
Second .....Mrs. L. C. Huckstep, Bowling Green.

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Leggins.

First .....Tena Fromader, Watertown.
Second .....Mary E. Warren, Fox Lake.

Fascinator.

First .....Mrs. John Nicholson.
Second .....Mrs. A. Gulick.

Lounge or carriage roe.

First .....A. C. Tuthill.
Second .....Mrs. S. A. Stockwell, Waukesha.

Fancy hood or cap.

First .....Mrs. L. C. Huckstep.
Second .....Mrs. W. P. Wegner, Milwaukee.

Lace.

First .....A. C. Tuthill.
Second .....Mrs. G. Rood.

Woolen mittens.

First .....Mrs. Hy. Fischer, Jefferson.
Second .....Mrs. John Nicholson.

Baby socks or shoes.

First .....Mrs. L. C. Huckstep.
Second ..... A. C. Tuthill.

Socks or stockings.

First .....Miss Amanda M. Bissman, Beaver Dam.
Second .....Mrs. L. Yanke, Waukesha.

Counterpane.

First .....Mrs. Hy. Fischer, Watertown.
Second ..... A. C. Tuthill.

CROCHET.

First .....Viola Abert, Milwaukee.
Second .....Meta L. Baker, Peoria, Ill.

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Shawl.

First .....Tena Fromader, Watertown.
Second .....Mrs. W. P. Wegner, Milwaukee.

Fascinator.

First .....Mary E. Warren, Fox Lake.
Second .....Annie Heinstedt, Milwaukee.

Baby's house sack.

First .....Mrs. Hy. Fischer, Watertown.
Second .....Meta L. Baker.

Lady's or child's skirt.

First .....Mrs. G. Rood, Stevens Point.
Second .....Meta L. Baker.

Slippers or shoes.

First .....Miss Mattie Hall, Lexington, Ky.
Second .....Meta L. Baker.

Lace edge or inserting.

First .....Mrs. W. P. Wegner.
Second ..... Mrs. Hy. Fischer.

Lounge or carriage robe.

First ..... Miss Mattie Hall.
Second .....Mrs. John Nicholson.

Counterpane.

First ..... Miss Mattie Hall.
Second .....Miss E. Schloemer, Milwaukee.

Doilies.

First .....A. C. Tuthill.
Second ..... Mrs. Hy. Fischer.

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DOMESTIC MANUFACTURE.

Traveling bag or case.

First .....Mrs. Susie Abert, Milwaukee.
Second .....A. C. Tuthill, Monroe.

Hand-made rug.

First .....A. C. Tuthill.
Second .....Anna A. Helberg, Milwaukee.

Kitchen apron.

First .....Viola Abert, Milwaukee.
Second .....Mrs. L. W. Barnes, Waupaca.

Mantel or piano scarf.

First .....Miss Amanda M. Bissman, Beaver Dam.
Second .....Meta L. Baker, Peoria, Ill.

Pieced quilt.

First .....Mrs. G. Rood, Stevens Point.
Second .....Mrs. Price Rood, Milwaukee.

Log cabin quilt, wool.

First .....Anna L. Helberg.
Second .....Mrs. John Nicholson, Monroe.

Log cabin quilt, silk.

First .....Mrs. John Nicholson.
Second .....Mrs. W. E. Kingsbury, Stevens Point.

Silk puff.

First .....Mrs. A. Kingsbury.
Second .....Mrs. G. Rood.

Shopping bag.

First .....Mrs. Price Rood, Milwaukee.
Second .....Clara M. Moyer, Milwaukee.

Fancy purse.

First .....Mrs. A. Kingsbury, Beaver Dam.
Second .....Caroline Schmasow, Milwaukee.

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Fancy work basket.

Second ..... Viola Abert.

Rag carpet.

First ..... Mary E. Warren, Fox Lake.
Second ..... Mrs. G. Rood.

Lady's fancy apron.

First ..... Mrs. Susie Abert, Milwaukee.
Second ..... Tena Fromader, Watertown.

Fancy pin cushion.

First ..... Mrs. A. Kingsbury.
Second ..... Mrs. Susie Abert.

Child's apron.

First ..... Mrs. W. P. Wegner, Milwaukee.
Second ..... Mrs. W. P. Wegner.

Patched mending.

First ..... Mrs. Susie Abert.

CHILDREN'S CLASS.

Pin cushion.

First ..... Elizabeth Talbutt, Lexington, Ky.
Second ..... Edna Stoppenbach, Jefferson.

Plain sewing.

First ..... Natalie R. Kellogg, Westfield, Mass.
Second ..... Mary E. Pease, Wauwatosa.

Dozen button holes.

First ..... Anna Binner, Milwaukee.

Sofa pillow in outline.

First ..... Edna Stoppenbach.
Second ..... Mary E. Pease.

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Pillow shams in outline.

First ..... Anna Binner.
Second ..... Edna Stoppenbach.

Centerpiece or doilies.

First ..... Edna Stoppenbach.
Second ..... Elizabeth Talbutt.

Crochet lace edge or inserting.

First ..... Edna Stoppenbach.
Second ..... Anna Binner.

Embroidered doilies.

First ..... Elizabeth Talbutt.
Second ..... Edna Stoppenbach.

Doll's outfit of clothes.

First ..... Natalie R. Kellogg.
Second ..... Edna Stoppenbach.

Pencil drawing.

First ..... Geo. Olson, Milwaukee.
Second ..... Natalie R. Kellogg.

Pen and ink sketching.

First ..... Geo. Olson.
Second ..... Elizabeth Talbutt.

Water color or pastel.

First ..... Geo. Olson.
Second ..... Natalie R. Kellogg.

Hemstitching.

First ..... Elizabeth Talbutt.
Second ..... Mary E. Pease.

Map of Wisconsin.

First ..... Edna Stoppenbach.
Second ..... Geo. Olson.

Specimen of hand writing.

First ..... Geo. Olson.
Second ..... Natalie R. Kellogg.

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SPEED.

Starting judge—F. E. STONE, Milwaukee.

2:35 Trot. Purse, $1,000.00.

Roscoe Medium, b. g. Dick McMahon, Chicago, Ill.....	1—1—1
Gentle Lady, blk. m. O. D. Ames, Wheaton, Ill.....	2—3—2
Kingsclerc, ch. g. R. A. Rouse, Danville, Ill.....	3—2—4
The Dean, b. g. Geo. Thompson, De Kalb, Ill.....	4—5—3
Frugality, b. m. C. L. De Ryder, Menomonie, Wis.....	6—4—5
Dr. Gray, g. h. Peter Vredenburgh, Springfield, Ill.....	5–Dist.

Time, 2:15¾. 2:16¼. 2:16½.

2:25 Trot. Purse, $1,000.00.

Roscoe Medium, b. g. Dick McMahon, Chicago, Ill.....	1—1—2—1
Baby Islam, br. m. D. J. Fenelon, Ripon.....	7—6—1—6
Manmeg, b. g. Geo. B. Smith, Chicago, Ill.....	2—2—3—2
Fanforan, b. m. F. S. Gorton, Gretna, Ill.....	4—4—5—3
Maud Wilton, br. m. W. S. Carpenter, Menomonie, Mich.	3—7—4—4
Claymont, blk. h. Dr. J. E. Oldham, Wichita, Kas.....	5—3—6—5

Time, 2:17¼. 2:17. 2:19½. 2:18.

2:15 Trot. Purse, $1,000.00.

G. W., b. g. Waller Bros., Charles City, Iowa.....	6—2—1—2—1
Geo. Muscovite, b. s. Chas. Bond, Galesburg, Ill.....	1—1—2—5—4
Klondike, g. g. Thos. H. Gill, Milwaukee.....	4—4—3—1—5
The Astronomer, blk. h. August Uihlein, Milwaukee...	3—4—5—3—2
Tonso, ro. g. D. J. Fenelon, Ripon.....	2—5—4—4—3

Time, 2:14¼. 2:14½. 2:15¼. 2:16¾. 2:17¾.

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2:30 Pace. Purse, $1,000.00.

Sphinx L. More, br. g. Frutchey & McGeorge, Cass city, Mich.	1—1—1
Jim. Patchen, blk. s. O. D. Ames, Wheaton, Ill.	2—3—2
Capt. Colbert, ch. g. Thos. Boyle, Palatine, Ill.	3—2—3

Time, 2:13¼. 2:15¼. 2:14.

2:20 Pace. Purse, $2,000.00.

Baron Rogers, br. g. W. A. Cobb, Scotland, S. D.	3—1—1—1
Allerson, g. s. F. S. Gorton, Gretna, Ill.	1—4—2—3
Josh. blk. g. Dick McMahon, Chicago, Ill.	4—2—3—2

Time, 2:14¼. 2:13¼. 2:11¾. 2:13¾.

2:15 Pace. Purse, $1,000.00.

Nervolo, b. s. Thos. Boyle, Palatine, Ill.	1—1
Josh, blk. g. Dick McMahon, Chicago, Ill.	3—2
Stranger O., b. g. Otto Zapel, Jr., Chicago, Ill.	2—3
Dacy, br. s. F. S. Gorton, Gretna, Ill.	4—4

Race ended by darkness, and settled by division of 2d and 3d money.
Time, 2:07¾. 2:10.

2:40 Trot. Purse, $600.00.

Lady Kathene, b. m. Peter Johnston, Kalamazoo, Mich.	1—1—2—1
Norman B., blk. g. Frank Brown, West Allis.	2—2—1—2
Belle G., ch. m. Emil T. Gumz, Milwaukee.	3—3—4—6
Patchenwood, br. s. C. L. De Ryder, Menomonie, Wis.	4—4—3—4
Oreno. J. C. Blair, Newell, Iowa.	8—7—7—3
Fine Gold, s. s. Albert Snyder, La Porte, Ind.	7—6—5—5

Time, 2:19. 2:17¼. 2:17¼. 2:21.

2:22 Trot. Purse, $700.00.

Eyeline, blk. m. Marion Conley, Newell, Iowa.	1—1—1
Prince, b. g. C. L. De Ryder, Menomonie, Wis.	2—2—5
Black Lady, blk. m. Geo. C. Loomis, Minneapolis, Minn.	6—3—2
Lady Sedan, b. m. L. Brill, Stevens Point.	4—4—3
Ted, blk. g. W. H. Potter, Mill Creek, Mich.	3—7—7
Claymont, blk. h. Dr. J. E. Oldham, Wichita, Kas.	5—6—4
Lady Almoneer, b. m. H. Blome, Sheldon, Iowa.	8—5—6

Time, 2:13¼. 2:15¼. 2:14¾.

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2:18 Trot. Purse, $700.00.

Lady Constantine, s. m. Geo. C. Loomis, Minneapolis, Minn.	1—1—1
Miss Brown, br. m. E. Klinkert, Racine	3—2—4
The Astronomer, blk. h. August Uihlein, Milwaukee	4—3—2
McKinley, b. g. H. Boone, Holland, Mich	2—7—3
Miss Dewey, b. m. J. L. Sears, Davenport, Iowa	6—4—5
Crystal L., br. g. F. F. Leonard, Crystal Lake, Ill	7—5—6
Lila Sprague, b. m. Jos. Keller, Milwaukee	.....

Time, 2:16½. 2:19. 2:17¾.

2:35 Pace. Purse, $600.00.

Dick Rhoda, ch. g. Otis T. Hare, Milwaukee	1—1—1
Upperwood, br. g. Geo. Brew, Milwaukee	2—2—2
Isabelle W., blk. m. HZ. Blome, Sheldon, Iowa	3—3—3

Time, 2:15¼. 2:17. 2:17½.

2:17 Pace. Purse, $700.00.

Ax, br. g. N. J. Aldrich, Aurora, Ill	2—2—1—1—1
Guy Caton, br. h. W. B. Robinson	1—1—2—2—2
Billy Jeffery, ch. g. J. W. Oldham, Chicago, Ill	3—3—3—3—3

Time, 2:12¼. 2:10¼. 2:11¼. 2:14¾. 2:12:¼.

2:11 Pace. Purse, $700.00.

Nonamie, b. m. L. P. Helm, Baraboo	1—1—1
Brown Sam, br. g. D. J. Fenelon, Ripon	2—2—2
Baby Kidd, b. m. R. L. Parker, Woodstock, Ill	4—3—3
Seringa, b. m. J. F. Paisley, St. Paul, Minn	3—4—4
Challie Downing, ch. m. E. R. Bacon, Chicago, Ill	7—5—5

Time, 2:09¼. 2:09¼. 2:10.

Running race, one-half mile and repeat. Purse, $200.00

Open to Wisconsin horses only.

Zaza, b. m. F. D. Gibson, Cataract	1—1
Miss Irene, br. m. Allie Wooster, Westfield	2—2
Tripp, ch. g. E. W. Sherman, Lake Geneva	3—3
Mailbag, br. g. F. Kirahy, Palmyra	4—4

Time, 51½. 51.

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Three-fourths mile and repeat. Purse, $200.00.

Zaza, b. m. F. D. Gibson, Cataract	1—1
Regea, b. m. T. Licalzi, Chicago, Ill	2—2
Ada Russell, ch. m. A. J. Karr, Pomeroy, Ohio	3—3

One mile dash. Purse, $200.00.

La Belle, b. m. Melvin Guthrie, Exeter, Neb	1
Tootsie Green, b. m. T. A. Magee, Chicago, Ill	2
Port Jarvis, b. s. T. J. Smith, Columbus	3
Miss Irene, br. m. Allie Wooster, Westfield	4
Golden Scepter, ch. g. T. Licalzi, Chicago, Ill	5
Blumist, b. g. T. A. Murray, Chicago, Ill	6
Tom Richardson, b. h. B. E. Chapman, Chicago, Ill	7

Time, 1:45.

One and one-eighth mile dash. Purse, $200.00.

La Belle, b. m. Melvin Guthrie, Exeter, Neb	1
Golden Scepter, ch. g. T. Licalzi, Chicago, Ill	2
Port Jarvis, b. s. T. J. Smith, Columbms	3
Hub Prater, b. g. J. J. McCabe, Chicago, Ill	4
Tootsie Green, b. m. T. A. Magee, Chicago, Ill	5
Tom Richardson, b. h. B. E. Chapman, Chicago, Ill	6

Time, 1:59.

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REPORT OF DEPARTMENT SUPERINTENDENTS.

HORSE DEPARTMENT.

To the Wisconsin State Board of Agriculture.

Gentlemen:—There was a splendid exhibit in this department, both in the daft and lighter breeds.

Competition was sharp in most of the classes, and in many of them Prof. Marshall, the judge, found it difficult to decide which among the many good ones should be adorned with the blue ribbon. His work, by the way, was generally and generously commended. Prof. Marshall works hard and conscientiously, and is a good judge.

Assistant Superintendent James Dillon did most satisfactory work in caring for wants of exhibitors.

Wisconsin breeders of horses may well be proud of the showing made at the fair, they having "held their own" very well against outside exhibitors. We hope the interest in this department will continue to grow, and that more farmers will send forward exhibits hereafter.

W. L. HOUSER,
Superintendent.

CATTLE DEPARTMENT.

To the Wisconsin State Board of Agriculture.

Gentlemen:—In submitting a brief report of the Cattle Department at the state fair of 1902, I am pleased to say that it was an excellent show of the leading breeds of cattle of both

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continents, and especially strong in the Shorthorn and Holstein classes. Other breeds were also out in force, and breeders are to be commended for the excellent showing made in the ring during the several days of judging. Judges were thorough in their work, and gave general, good satisfaction. No complaints were heard, and no protests entered.

Exhibitors were courteous at all times, and did their best to keep the barns and cattle therein in a presentable condition for the public to view.

Much annoyance was experienced from dust blowing through the barns, and exhibitors were put to some inconvenience on account of water supply giving out, on one day of the fair. It was not serious, however, and will doubtless not occur again, as ample water supply and sprinkling facilities will be provided before another fair.

A large, commodious, permanent judging amphitheater is much needed, and must be built, if Wisconsin expects to keep pace with other leading fairs, in providing comfort for both exhibitors and fair patrons.

The Shorthorn sale, held during the fair, was a decided success, and should by all means be encouraged by the board, and in this connection special efforts should be put forth to induce breeders of other breeds to hold annual sales, during state fair week, as it not only adds to the attractions of the fair, but advertises Wisconsin breeders, and brings lasting benefit to them and to the state.

I am under obligations to members of the board, to judges in the cattle department, to Mr. M. T. Allen, assistant superintendent, and to all exhibitors, for kind, efficient, courteous treatment and assistance.

C. H. EVERETT,
Superintendent.

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SHEEP DEPARTMENT.

To the Wisconsin State Board of Agriculture.

Gentlemen :—In making my annual report of the Sheep department for the fair of 1902, I can say that we had the best exhibit that I ever have seen at a Wisconsin fair.

I will suggest that the board extend the classes in this department so as to recognize other breeds, and as far as possible, to avoid putting more than one breed in a class; and also provide some kind of pavilion for use in judging, so that hundreds of interested visitors may have some way of seeing the work of the judge, without obstructing the entrance to the ring, or looking through the fence.

I wish to compliment the work of the judges in this department,—Mr. N. H. Gibson, who passed upon the mutton breeds, and Mr. T. F. McConnell, who judged the fine wools. I never saw work that gave better satisfaction.

Respectfully submitted,

H. A. BRIGGS,
Superintendent.

SWINE DEPARTMENT.

To the Wisconsin State Board of Agriculture.

Gentlemen:—The Swine department of the Wisconsin State Fair for the year 1902, while not as large as in some previous years, was of high quality. All the leading breeds were represented.

Mr. Wyman N. Lovejoy of Roscoe, Ill., made the awards in a generally satisfactory manner.

GEO. WYLIE,
Superintendent.

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POULTRY DEPARTMENT.

To the Wisconsin State Board of Agriculture.

Gentlemen:—As superintendent of the Poultry department for the year 1902, I am pleased to report that there was a much larger exhibit than in the past, and that the birds were of an exceedingly fine quality. The judging in this department, by Mr. S. Butterfield of London, Ont., so far as I know, gave perfect satisfaction, and I assumed to say to Mr. Butterfield, that I had no doubt that his services as judge would be wanted at the Wisconsin State Fair of 1903; and he assured me that if possible, he would be pleased to be present, if notified in time, that he might make his arrangements accordingly.

The poultry department is an attractive feature of any fair, and I predict that it will be but a short time before more room will be needed to accommodate this department. The present poultry building should be painted white overhead, and glass should take the place of canvas on the sides. New and better coops should take the place of the temporary ones now in use, in the building, and the space set aside for judging should be covered by a good, substantial roof. I would suggest that a long sign, "Poultry Department," be placed over the walk in front of the building, to assist visitors in locating this branch of the exhibits at the fair.

I think some changes should be made in the premium list, but will make these suggestions at the proper time.

Yours respectfully,

C. W. HARVEY,
Superintendent.

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DAIRY DEPARTMENT.

To the Wisconsin State Board of Agriculture.

Gentlemen:—I hereby submit my annual report as superintendent of Department "G" of the Wisconsin State Fair for 1902.

The large exhibit of butter and cheese, that represented these products from five states besides Wisconsin, filled the refrigerator to its full capacity; and several exhibitors of dairy implements had to be turned away, for want of space in the hall.

If this department is expected to grow and improve, it must have a larger building, with better facilities for visitors to see the exhibit, and pass through the building. For two days, during the last fair, the building was so crowded as to make it almost impossible to get in or out of the hall, and hundreds went away, without getting a chance to see the exhibit.

It is due, not only to the patrons of the fair, but to exhibitors, and those in charge of the "Dairy School Exhibit," that the facilities for making a show creditable to the state, should be provided.

(For full statement of scores in butter and cheese, see "Award of Premiums, Dairy Department.")

The exhibit and work of the Dairy School was better than ever, and Prof. E. H. Farrington, who planned and supervised every detail of the work, and his able corps of assistants, are entitled to great credit for their fine display during the fair.

The Creamery Package company, of Chicago, made a large display of dairy implements, under the supervision of Mr. R. C. Green, who promised a much larger exhibit next year.

The Vermont Farm Machine company, of Bellows Falls, Vt., made a good display of U. S. separators, Babcock milk testers, churns and dog powers, under the direction of State Agent Crippin.

The DaLaval Separator company, of Chicago, made a fine

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show of their separators, through their state agent, Mr. Hastings.

The Sharpless Separator company, of Chicago, exhibited three sizes of their hand tubular separators.

The Davis Cream Separator company, of Chicago, exhibited one of their hand machines, which from appearance and workmanship promises to become quite popular.

The Hart company, of Madison, exhibited a six-horse-power gasoline engine.

For a complete, detailed statement of the Dairy School work and exhibit, the report of Prof. E. H. Farrington is here inserted.

"The Wisconsin Dairy School exhibit was larger this year than ever before; several new features were added to the educational part of this exhibit although the general plan of it was the same as in former years.

Milk was received daily and both butter and cheese were made by the dairy students present. This attracted so much attention that the entire building was crowded to suffocation; in fact, when a person entered the dairy building, he was carried along with the crowd and in many cases unable to stop to inspect any one thing but must keep along in the current of humanity which constantly flowed through the building from one end to the other.

The narrow passage-way along the sides of the refrigerator is particularly inadequate to accommodate the visitors who may want to stop and inspect the exhibits arranged on the sides of the building.

The addition built on the south end of the building a few years ago and the seats erected for visitors at that time, have proved to be much appreciated by sight-seers. Some use these as a resting place while watching the engines, separators, churns, etc., and others particularly interested in the machines, stop to note the points of advantage and disadvantage which they may have. Supply dealers and persons wishing to buy this line of dairy supplies have been greatly pleased with the results obtained from this dairy exhibit during the past three years. The crowded condition of these exhibits shows the need of a larger building for this department.

The buttermaking and cheesemaking carried on by the Dairy School have been done under trying conditions, especially as

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they require hot water and steam to conduct these operations successfully. These have been supplied in the past by a small boiler which was loaned by dealers in creamery supplies and operated by the dairy students. This has not been a very satisfactory arrangement and we therefore suggest that, since a boiler is used by the State Fair board to furnish steam for pumping water, that a pipe be laid from this boiler house to the dairy building for the purpose of supplying the buttermakers and the cheesemakers with the steam and hot water needed to make the dairy exhibit attractive to the general public.

The Dairy School exhibit occupied one side and one end of the building and one end of the refrigerator. Besides the buttermaking and cheesemaking as carried on by the students, illustrations of many lines of dairy work were explained by the students. Something of an idea of the opportunities afforded visitors to obtain information from this exhibit may be gained from the following statements which were printed on large charts and hung in the Dairy School exhibit.

WISCONSIN DAIRY STATISTICS.

One million cows are kept on one hundred and sixty-thousand farms in Wisconsin. These cows supply milk to one thousand creameries and one thousand eight hundred cheese factories. The twenty-eight hundred creameries and cheese factories in the state are valued at seven million dollars. One-fourth of the total butter produced is dairy butter and three-fourths creamery butter. One-fourth the cheese made is Swiss, brick and Limburger and three-fourths of it is Cheddar cheese.

Wisconsin produced over sixty million pounds of cheese in 1899. This is more than one-fourth of the entire cheese product of the United States.

Shipments of Swiss, Brick and Limburger cheese from Green county in 1899 reached over twelve million pounds, which is about one-half the total production of these cheese in the state.

The Wisconsin Dairy School uses about three million pounds of milk per year in giving its practical instruction in butter making, cheese making, milk and cream pasteurizing and experimental work. The milk is now furnished by one hundred patrons living in the vicinity of Madison. This gives our students a milk supply similar to that of the 2,800 creameries and cheese factories of the state.

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The products of the Dairy School are:

Fancy print and package butter.
Full cream Cheddar cheese.
Swiss, Brick and Limburger cheese.
Pasteurized milk and cream.

The Babcock Milk Test originated at the Wisconsin Dairy School. It is now universally used for testing the milk of creamery and cheese factory patrons and for locating unprofitable cows. By detecting the losses in skim milk, buttermilk and whey it effects a saving of $800,000.00 annually to Wisconsin alone. Over 60,000 copies of bulletins and reports describing this test have been issued by the Wisconsin Experiment Station.

BUTTER MAKERS! ATTENTION!

The Wisconsin Dairy School has on exhibit in this room three tubs of butter made from cream skimmed from the 12,000 pounds of milk which is received daily at the school.

The 1,200 pounds of cream were mixed in a large vat, then divided into three lots and treated as follows: 400 pounds of cream in each churning:

Lot I churned sweet.
Lot II churned after ripening with starter.
Lot III pasteurized and churned after ripening with the same starter used in lot II.

This gives us a chance to inspect:

Sweet cream butter.
Sour cream butter.
Pasteurized cream butter.

All made from one day's cream.

The three tubs of butter show the effect which these different systems of making have on butter flavor and texture.

CHEESE MAKERS! ATTENTION!

These eight bottles contain pieces cut from cheese showing effects of good and bad milk. The cheese maker cannot overcome the faults shown; they are caused by the careless milk producer.

Swiss Cheese:

One showing "eyes" and texture perfect.
One showing too many small eyes; would not bring more than half price. Caused by impure milk.

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Brick Cheese:

One showing perfect texture; made from clean, sweet milk.

One showing defective body from gasey, dirty milk.

Cheddar Cheese:

One showing solid, firm texture, O. K.

One showing loose, ragged texture, milk not well cared for.

Limburger Cheese:

One showing close, meaty texture, O. K.; milk clean and pure.

One showing defective texture, fine pin holes, gasey. From milk containing barnyard taints.

READ THE SIGNS.

If you are interested in:

Butter making,
Cheese making,
Milk testing,
Dairying,

Come in and inspect the latest appliances used for:

Testing milk, cream or skim milk,
Testing the acidity of cream,
Testing cream by weight,
Calibrating test bottles,
The Mann's acid test,
Farrington's alkaline tablet test,
The rennet test,
Fitch's butter salt test,
Detecting water in milk,
Dairy school literature,
Experiment Station bulletins.

Books and papers for:

The butter maker,
The cheese maker,
The man who milks the cows.

1272 butter makers and cheese makers have attended the Wisconsin Dairy School since it started in 1890.

130 students are given instruction each winter in Factory Butter Making, Factory Cheese Making, Milk Testing, Milk and Cream Pasteurizing, Dairy Machinery Repairing and Management.

The winter term begins Nov. 5, 1902, and closes January 29, 1903.

Dairy certificates have been granted to 266 students.

229 applications for our students were received last year.

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THE LAST CENSUS REPORT

Shows that Wisconsin made the greatest development in the Dairy Industry of the five leading Dairy States: Wis., N. Y., Ia., Ill., and Penna.

The value of its total product having increased 189.1 per cent. from 1890 to 1900.

The materials such as milk cans, butter tubs, cheese boxes, etc., used annually in Wisconsin are estimated to cost $1,623,859, and the annual dairy products are valued as follows:

Butter at 16½ cents	$11,921,914 00
Cream	123,573 00
Skim milk	458,187 00
Dried Casein	3,390 00
Other Creamery receipts	29,459 00
Cheddar Cheese at 19½ cents	5,493,576 00
Other kinds of cheese at 19¼ cents	1,787,605 00
Condensed milk	231,225 00
Total value of products	$20,048,934 00

DAIRY STATISTICS OF THE UNITED STATES.

Total number of:

Creameries, cheese factories and condensaries	9,245
Farms	5,739,657
Cows	18,112,707
Milk, gallons	7,728,583,350
Butter, farm lbs.	1,071,735,127
Butter, creamery, lbs.	420,954,016
Condensed milk, lbs.	186,921,787

Total value of Dairy Products: Six Hundred Million Dollars.

There were exported from the United States in 1901:

Butter, lbs.	24,249,565
Cheese, lbs.	31,396,579

Total value of exported Dairy Products $8,837,889, which was only a little over two per cent. of the annual dairy products.

The Wisconsin Curd Test was developed at the Wisconsin Dairy School where students are taught how to use it. It detects and locates the source of impure milk so that floating curds and "huffy" cheese

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may be avoided. The state traveling cheese instructors find this test to be of great benefit in showing patrons that cheese factory milk must be well cared for. Losses of thousands of dollars annually to the Wisconsin cheese industry are now prevented by the use of the Wisconsin curd test.

AN EXAMPLE

Showing how the Wisconsin Curd Test helped a Swiss Cheese Maker.

At a certain Swiss cheese factory the milk was so defective that the 600 pounds of cheese made daily did not grade above No. 2 cheese which sold for three cents below the prices of No. 1 cheese. This caused a loss of $18.00 per day to the patrons. In order to locate this trouble a curd test was made of the milk brought by each patron. This showed that the defective milk came from one herd of eleven cows. The milk given by each of these cows was next examined and the Curd Test showed that one cow with a deseased hoof was responsible for the No. 2 cheese. This cow's milk was kept out of the factory supply and No. 1 cheese was made. The losses from defective milk at one factory for one day amounted to double the cost of a Curd Test and the time to use it.

Six cheese made at the Wisconsin Dairy School to show that the amount and quality of cheese varies with the richness of the milk. Each cheese was made from the same weight of milk.

200 lbs. of skim milk testing 0.1 per cent. fat.....11 lbs. cheese.
200 lbs. of milk testing 1.0 per cent. fat.....13.4 lbs. cheese.
200 lbs. of milk testing 2.0 per cent. fat.....16 lbs. cheese.
200 lbs. of milk testing 3.0 per cent. fat.....16.3 lbs. cheese.
200 lbs. of milk testing 4.0 per cent fat.....21.6 lbs. cheese.
200 lbs. of milk testing 5.0 per cent. fat.....24.3 lbs. cheese.

A duplicate set of these cheese was sent to the Paris Exposition April 15, 1900. This exhibit was awarded a GOLD METAL.

DAIRY MACHINERY.

The Wisconsin Rairy School is now provided with a special building and equipment for giving practical instruction in the use and management of Dairy machinery.

In the basement of this building dairy students learn to fire and care for two large boilers, one of which burns wood and the other coal. The fuel burned each day is weighed and measured by the students

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and all the work of firing is done by them under the supervision of an instructor.

On the first floor steam engin es, boiler feed water pumps, injectors, governors, steam gguages, etc., etc., are taken apart and put together.

Separators are set up and connected with the line shaft by pulleys. The shafting is also hung and lined up by the students.

A large room on the second floor is fitted with benches and tools for giving a course of instruction in Pipe Cutting and Fitting, Belt Lacing and Tin Soldering.

Samples of students' work are shown in this exhibit.

TEST YOUR COWS.

Weighing and testing the milk of thirty-four cows on four farms showed the butter value of each cow's milk for one year to be as follows:

	Best cow.	Poorest cow.
Farm A	$53 35	$23 72
Farm B	58 20	44 83
Farm C	60 72	37 96
Farm D	55 49	39 60

Dos each one of your cows give milk enough to pay for her feed?

The average composition of Milk, Butter and Cheese is shown in this exhibit. The bottles contain the weight of each constituent found in the amount of Milk, Butter and Cheese shown.

	Parts.
Milk and its constituents:	
Water	87
Fat	4
Casein	2.5
Milk sugar	4.8
Ash	.7
Total	100
Butter and its constituents:	
Water	12
Fat	84
Curd	1
Salt	3
Total	100

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Cheese and its constituents:

Water	36
Fat	33
Casein	27
Salt	4
Total	100

Butter	4.5
Cheese	40.0

E. H. FARRINGTON."

In conclusion, I desire to call attention to the fact that the success of this department is very largely due to Dean W. A. Henry, of the Agricultural College, and Prof. Farrington, of the Dairy School, both having taken a deep interest in its success. Prof. Farrington labored untiringly in getting up the Dairy School exhibit, and also with those who had been students at the Dairy School, to get them to make exhibits at the fair.

I trust that the strong efforts of these gentlemen in behalf of the great dairy interests of Wisconsin will be rewarded with complete success.

Yours most respectfully,
JOHN W. THOMAS,
Superintendent.

HORTICULTURAL DEPARTMENT.

To the Wisconsin State Board of Agriculture.

Gentlemen:—I herewith submit a brief report of my department. Being in close touch with the fruit growers of our state, I foresaw that a large number of exhibitors, with many entries, would be on hand.

Early calls for space insured us a very large exhibit. The season was favorable for the production of all of our fruits. Specimens were large and highly colored. There were over 2,500 plates of apples, plums, pears, and grapes, on the shelves, and these had to be crowded together, and for

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want of space, some plates had to be placed on top of others, and in most cases the display did not do justice to the exhibitor.

Probably never before in the history of Wisconsin state fairs was there a larger or better display of fruits and flowers than was on exhibition at the state fair held the week of September 8–12, 1902. Each exhibitor did his best to outdo his neighbor exhibitors, and each deserves credit for the care and attention given to his display.

One of the more recent exhibitors was Mr. Shuster, of Middleton, Wisconsin, who had a large display of grapes. His display consisted of about fifty plates of twenty-two varieties.

W. J. Moyle, of Yorkville, was there with his show of pears and some fine specimens of apples.

Mrs. Robert Ramsey, of Baraboo, without doubt had the best exhibit of apples in the amateur class and a glance at the awards will show her record.

George J. Jeffrey, of Milwaukee, probably had the largest number of plates on the shelves. His display contained over four hundred plates of apples, plums, grapes and pears. Forty-five varieties of pears were shown by him.

J. S. Palmer, of Baraboo, had over 150 plates of apples of forty varieties. While Mr. Palmer's display was not as large as some, it made up in quality and general appearance of fruit.

J. L. Schultz, of Lake Mills, was a new exhibitor. His fruit was never before on exhibition. It was tastily arranged and attracted much attention from all passers by. This display consisted of fifty plates of some forty varieties.

Kelley Brothers, of Mineral Point, made a creditable showing of apples.

Other exhibitors in the amateur class were: B. C. Ingersoll, of Prospect; W. S. Hager, W. Depere; Edward Granger, Calhoun and A. L. Kleeber, Reedsburg.

In the professional class, the old-time exhibitors were on hand with their usual fine displays. The fruit exhibits would look small were it not for such men as Chas. Hirschinger, Wm. Fox, A. D. Barnes, and F. H. Chappel.

People attending the state fair know where to find these men;

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their faces have become familiar and people know where to find a good display of fruit.

The remark was made at the fair by one of the leading authorities on horticulture that probably no other man had done so much, and was better authority on Russian varieties of apples, than A. G. Tuttle, of Baraboo. Mr. Tuttle has stood by the Russians and the display he made at the fair demonstrates whether they can be successfully grown. He showed fifty-three varieties of Russians, probably the largest number ever brought together in one exhibit.

The exhibits of cut flowers and greenhouse plants by both professionals and amateurs were very tastily arranged and admired by all passers by. In the professional exhibits of cut flowers, Jno. M. Dunapl and J. S. D. Ringrose, of Wauwatosa, and John Grape, of Waukesha. In addition to those above, Alex. Klokner, of Wauwatosa, was an exhibitor in the professionals of greenhouse plants and flowers.

In the amateurs, Pauline Jeske made up the exhibit of greenhouse plants, and Mrs. L. W. Barnes, of Waupaca, Pauline Jeske, of Milwaukee, and Mrs. Jno. J. Hannan, of Milwaukee, were exhibitors.

The customary exhibit of the Experiment Station was in place early Tuesday, and comprised 160 plates of plums and 131 plates of apples. Of the plums, 61 were named varieties, and 100 were seedlings. The latter were not equal in size to those shown the past two years, but presented very many promising kinds. An improvement over former exhibits was the grouping of the seedlings by means of which the seed parent and its seedlings were shown in separate groups.

I wish to express my sincere thanks to judges and exhibitors for their kindness and consideration shown all around.

In 1903, I hope to see some improvements made in the Horticultural building, that we may receive more space, that the exhibits may be shown to better advantage.

J. L. HERBST,
Superintendent.

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FINE ART DEPARTMENT.

Wisconsin State Board of Agriculture.

Gentlemen:—The exhibition of fine arts at the fair of 1902 was a marked improvement over all preceding fairs. The judges gave perfect satisfaction. The paintings were especially good, and worthy of much more space. There were several large exhibits,—three from other states.

For the want of more room, I was obliged to hang some pictures over the cases in the Woman's Work department. Being very high, this was unsatisfactory, and caused some complaint among the exhibitors, who felt that they were crowded out of the painting exhibit.

The entire wall space in the Art Hall is none too large for paintings and drawings. With all the space, the pictures could be arranged in a more artistic manner—singly and collectively—the general effect being much improved thereby.

There is another matter of importance, to which I respectfully call the attention of the board; that is: there should be a place provided for storing boxes and cases in which goods are sent. There were several large boxes stolen, as we were obliged to put some of them outside. Left inside, they looked badly, and were very much in the way. The spaces under the china case are always filled with wrapping papers, baskets and smaller articles used by exhibitors in handling their goods.

There is a growing tendency among exhibitors to send their exhibits to the superintendent to be unpacked, and at the close of the fair, packed and re-shipped,—often to other fairs. The handling of china and pictures requires a vast amount of careful work, the many details connected with it also require very careful attention. I am pleased to report that nothing was lost, strayed, or broken.

More wall space for paintings, and a store-room are the urgent needs of the Fine Arts department at present.

Respectfully,

MRS. CHARLES A. SCOTT,

Superintendent.

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WOMAN'S WORK DEPARTMENT.

To the Wisconsin State Board of Agriculture.

Gentlemen:—The number of exhibits in Woman's Work was probably as large as at any previous fair; in some classes, I know it was larger, but there was quite a marked tendency toward showing smaller articles, and those of finer workmanship, causing some to infer that the exhibit was not as large as in former years.

I heard some fault found that people from outside our state were allowed to exhibit, urging that it was a *state* fair for our people only, but I can see no objection, as long as the rule extends to other departments.

One thing I would call attention to, is the growing tendency of exhibitors to send their exhibits to the superintendent, and a note with them like this: "At close of fair please repack my goods, and ship *at once,* as I wish to send them to another fair," etc. Now, this entails a good deal of extra work, as well as considerable expense, as it requires our staff of assistants to remain on duty a longer time.

The skylight in the Art Hall leaked badly during the storm early in the week of the fair, endangering the safety of exhibits.

MARY E. CHADWICK,
Superintendent.

MACHINERY DEPARTMENT.

To the Wisconsin State Board of Agriculture.

Gentlemen:—It is with pleasure that I can report to you that the exhibit in this department for the year 1902 exceeds that of any previous year in point of number and class of exhibits. Following is a brief list of exhibits and persons in charge:

Appleton Mfg. Co., Batavia, Ill., T. Howard, exhibitor, feed cutter, wind mills, sweep powers, and gas engines.

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Rosenthal Husker Co., Greenfield, Wis., A. L. Harnburg, exhibitor, corn huskers.

Thomas Mfg. Co., Springfield, Ohio, J. A. Collins, exhibitor, drills and seeders.

Smith & Pomeroy, Kalamazoo, Mich., F. W. Metzger, exhibitor, wind mills.

Deere & Mausur Co., Moline, Ill., Gus Arons, exhibitor, huskers.

Columbus Buggy Co., Columbus, Ohio, S. Davidson, exhibitor, carriages.

J. I. Case Plow Co., Racine, Wis., Clas. Knoblock, exhibitor, plows, harrows, and cultivators.

American Steel & Wire Co., Chicago, Ill., A. W. Wellman, exhibitor, wire fence.

F. W. Moldenhauer, Oconomowoc, Wis., pumps.

Anderson Carriage Co., Detroit, Mich., Geo. Seeger, exhibitor, carriages.

J. I. Case Threshing Machine Co., Racine, Wis., Larkin, exhibitor, threshers and engines.

S. D. Burke Co., Madison, Wis., J. W. Herrington, exhibitor, carriages.

Advance Thresher Co. Madison, Wis., A. M. Frish, exhibitor, threshers and engines.

Dowagiac Mfg. Co., Dowagiac, Mich., W. H. Messenger, exhibitor, drills and seeders.

Petrie, Elliot & Herrington, Madison, Wis., carriages, wagons, wind mills, and farm implements.

A. Buchs & Sons, Elizabethtown, Pa., H. N. Hiesey exhibitor, lawn swings, stock tanks, and fanning mills.

John Dorsch & Sons, Milwaukee, Wis., L. J. Dorsch, exhibitor, machinery and carriages.

C. P. & J. Lawson, Milwaukee, Wis., gas engines.

Champion Potato Mch. Co., Hammond, Ind., Otto Knoezer, exhibitor, potato diggers.

South Bend Chill Plow Co., South Bend, Ind., A. J. Dorsch, exhibitor, plows, cultivators, and potato diggers.

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Wisconsin Corn Feeder Co., Madison, Wis., H. W. Main, exhibitor, corn feeders.

Racine Wagon & Carriage Co., Racine, Wis., Hall & Feak, exhibitors, carriages.

O. H. Kelly Mfg. Co., Iowa City, Ia., M. H. O. Williams, exhibitor, separators.

Thos. C. Williams, Randolph, Wis., John Dumphy, exhibitor, painters scaffold.

Iowa Grinder & Steam Works, Waterloo, Ia., L. F. Potter, exhibitor, sweep grinders.

Stolp & Lutter, Milwaukee, Wis., E. Stolp, exhibitor, carriages, wagons, and farm implements.

Janney, Mfg. Co., Ottumwa, Ia., B. M. Wik, exhibitor, huskers.

Oviatt Wagon Co., Lansing, Mich., A. C. Clarke, exhibitor, wagons.

Belle City Mfg. Co., Racine, Wis., feed cutters.

Reeves & Co., Columbus, Ind., H. P. Kane, exhibitor, threshers.

Safety Shredder Co., New Castle, Ind., F. M. Clarke, exhibitor, shredders and engines.

Avery Mfg. Co., Peoria, Ill., A. D. Knolt, exhibitor, thresher engines, wagons and cultivators.

Fricke, T. M. Co., Waynesboro, Pa., Robt. Walker, exhibitor, threshers.

American Harrow Co., Detroit, Mich., A. F. Manning, exhibitor, cultivators, harrows, and manure spreaders.

Harworth & Sons, Decatur, Ill., G. F. Towne, grain drills.

Stavor Carriage Co., Chicago, Ill., J. J. Baker, exhibitor, carriages.

Milwaukee Rice Mch. Co., Milwaukee, Wis., A. F. Schuer, exhibitor, gas engines.

A. W. Stevens & Co., Marinette, Wis., H. M. Hardgrove, exhibitors, threshers, engines, and huskers.

Fuller & Johnson, Madison, Wis., H. G. Rinder, exhibitor, farm implements and carriages.

Jacob Straub, Kamelsport, Wis., gravel loading machine.

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Wisconsin Foundry & Steel Works, Cedar Grove, Wis., J. Gungers, exhibitor.

Dallman Cooper Supply Co., Fond du Lac, Wis., A. C. Dallman, exhibitor, clod crushers, huskers, strackers, and engines.

Luther Bros. Co., Milwaukee, Wis., C. J. Luther, exhibitor, sickle grinders.

B. P. Williams, enry, Ill., W. R. White, exhibitor, patent gates.

Deere & Co., Moline, Ill., S. M. Gantz, exhibitor, full line farm machinery.

Monitor Mfg. Co., Minneapolis, Minn., G. A. Heath, exhibitor, drills and seeders.

J. B. Rowell & Co., Menominee Falls, Wis., W. T. Camp, exhibitor, feed cutters.

Moline Wagon Co., Moline, Ill., J. H. Gibler, exhibitor, wagons.

Collins Plow Co., Quincy, Ill., J. A. Farmar, exhibitor, two hay presses.

Gemmer Mfg. Co., Marion, Ind., W. M. Hale, exhibitor, gas engines.

Sulky Disc Harrow Mfg. Co., Madison, Wis., H. S. Howard, exhibitor, disc harrows.

Satley Mfg. Co., Springfield, Ill., M. O. Smith, exhibitor, Satley stacker.

Johnson & Feld, Racine, Wis., Geo. W. Wild, exhibitor, fanning mills.

Hart-Parr Co., Charles City, Ia., C. Z. Wise, exhibitor, gas engines.

Racine Pole & Spring Co., Racine, Wis., W. S. Morey, exhibitor, carriages, poles and springs.

Wisconsin Carriage Co., Janesville, Wis., F. Vanderwater, exhibitor, carriages.

Chas. A. Stickney Co., St. Paul, Minn., C. A. Stickney, exhibitor, gas engines.

Force Feed Lubricating Co., Milwaukee, T. P. Carter, exhibitor, lubricators.

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Gale Mfg. Co., Albion, Mich., E. T. Basset, exhibitor, farm implements.

Smalley Mfg. Co., Manitowoc, Wis., Kelly, exhibitor, feed cutters.

Hirsch Bros., Milwaukee, C. J. Hirsch, exhibitor, full line farm implements.

S. L. Allen Co., Philadelphia, L. B. Jones, exhibitor, Planet Jr. goods.

J. L. Owens Co., Minneapolis, Minn., J. J. Owens, exhibitor, fanning mills.

Milwaukee Hay Tool Co., Milwaukee, Wis., Sproat, exhibitor, huskers and feed cutters.

Frank Hamachek Co., Kewaunee, Wis., T. J. Stangel, exhibitor, farm machinery.

David Bradley Mfg. Co., Bradley, Ill., E. W. Clarke, exhibitor, hay presses.

Van Brunt & Wilkins, Horicon, Wis., G. L. DaHorst, exhibitor, grain drills.

Schoemer Bros., Milwaukee, F. Schoemer, exhibitor, carborator.

Page Woven Wire Fence Co., Adrian, Mich., F. F. Publes, exhibitor, wire fence.

Kemp Manure Spreader, North Lake, Wis., Wm. B. H. Kerr, exhibitor, manure spreader.

Kokomo Steel & Wire Co., Kokomo, Ind., G. W. Clark, exhibitor, wire fence.

Janesville Machine Co., Janesville, Wis., A. N. Healey, exhibitor, farm machinery.

Anchor Fence Co., Milwaukee, Wis., E. D. Rigbee, exhibitor, woven wire fence.

Lamb Fence Co., Adrian, Mich., O. F. Bliss, exhibitor, wire fence.

Selby, Starr & Co., Peoria, Ill., C. A. Patterson, exhibitor, grain drills and seeders.

Kitselman Bros., Muncie, Ind., Al Barber, exhibitor, wire fence.

Stolp & Lutter, Milwaukee, T. Stolp, exhibitor, carriages.

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IN MACHINERY DEPARTMENT—FAIR OF 1902.

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L. B. Baker Mfg. Co., Racine, Wis., Hastings, exhibitor, ladders.

Stoughton Wagon Co., Stoughton, Wis., Jas. Rice, exhibitor, wagons and sleighs.

Wagner & Hastir, Hinkley, Ill., L. E. Davis, manure spreaders.

Sprague Umbrella Co., Norwalk, Ohio, C. M. Ballard, carriages.

Martin Staughn, Milwaukee, Wis., plows.

Alex Klokner, Milwaukee, Wis., feed cookers.

J. Thompson & Son, Beloit, Wis., Pratt, exhibitor, gas engines.

Twin City Washer Co., Minneapolis, Minn., W. W. Tatro, exhibitor, washing machines.

Universal Coupler Co., Madison, J. G. Kanouse, exhibitor, wind mill couplings.

The Barth Mfg. Co., Milwaukee, lifting jacks and elevators.

Milwaukee Machine Co., Milwaukee.

Fish Bros. Wagon Co., Racine, Wis., J. C. Weatherby, exhibitor, wagons.

Van Schaick Husker, Walworth, Wis., Wm. Van Schaick, exhibitor, gas engines and husker.

Many thanks to the management for assistance rendered the department, also exhibitors and agents for interest taken to make their exhibits complete.

Yours respectfully,

JAS. E. SEAVER,
Superintendent.

SPEED DEPARTMENT.

To the Wisconsin State Board of Agriculture,

Gentlemen:—I beg to submit the following report of the Department of Speed, for the fair of 1902.

The following purses were offered:

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STAKE RACES.

2:35 Trot, Purse	$1,000 00
2:25 Trot, Purse	1,000 00
2:15 Trot, Purse	1,000 00
2:30 Pace, Purse	1*000 00
2:20 Pace, Purse	1,000 00
2:15 Pace, Purse	1,000 00

CLASS RACES.

2:40 Trot, Purse	$600 00
2:22 Trot, Purse	700 00
2:18 Trot, Purse	700 00
2:35 Pace, Purse	600 00
2:17 Pace, Purse	700 00
2:11 Pace, Purse	700 00

RUNNING RACES.

One-half mile and repeat (Wisconsin horses), Purse	$200 00
Three-fourths mile and repeat (open), Jurse	200 00
One mile dash (open), Purse	200 00
One and one-eighth mile dash (open), Purse	200 00

Horses entered, and started, in the several races, as follows:

	Horses entered.	Horses drawn.	Horses started.
2:35 Trot	20	4	6
2:25 Trot	29	4	7
2:15 Trot	14	0	6
2:30 Pace	19	3	3
2:20 Pace	25	3	6
2:15 Pace	21	8	3
2:40 Trot	16		8
2:22 Trot	11		7
2:18 Trot	11		8
2:35 Pace	10		4
2:17 Pace	13		6
2:11 Pace	18		8
One-half mile running race	5		4
Three fourths mile running race	5		3
One mile dash	7		7
One and one eighth mile dash	6		6

Thirty-two horses were suspended,

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Dr. F. E. Stone, of Milwaukee, was employed as starting judge. Messrs. E. W. Barnard, Palmer L. Clark, H. D. Steuerwald, J. W. Swansbrough, and John Callahan acted as "timers," and J. L. Haney, Harvey Bills, D. K. Zimmerman, Edwin W. Platto, C. C. Bates, J. A. Collin, and W. C. Robbins were "judges."

I am under obligations to these several gentlemen, for their efficient assistance.

The aggregate amount, paid for races, is as follows:

For trotting and pacing	$9,610 00
For running races	655 00
	$10,265 00
We received in entry fees	$6,856 25
From score card privilege	100 00
And there is due from suspensions	1,052 50
	$8,273 75

The results of the several races will be found in department of "Award of Premiums," in another part of this report.

Respectfully submitted,

C. G. WILCOX,
Superintendent.

DEPARTMENT OF GATES.

To the Wisconsin State Board of Agriculture,

Gentlemen:—I herewith submit my report of expenses of Department of Gates, for year 1902:

J. F. Flanders	$13 70
William Huck	6 00
E. H. Clough	8 00
D. R. Morrisey	6 00
C. J. Tempers	12 00
John Plucker	15 60
Charles Pearson	15 55
A. H. Hitchcock	13 48
Elmer Burdeau	15 60

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Antone Peters	15 80
Arthur Cleveland	15 96
George Jones	20 72
Walter Dudy	15 80
Robert Hall	20 72
Henry Green	18 35
G. W. Burnside	17 72
John Monette	15 40
Robert Vickery	20 10
John Coleman	6 00
M. C. Welton	12 00
Carl Huss	15 80
R. O. Wedgwood	24 80
Charles Cox	16 60
Total	$341 70

Respectfully Submitted,

DAVID EDGEWOOD,

Superintendent.

SUPERINTENDENT OF GROUNDS.

To the Wisconsin State Board of Agriculture,

Gentlemen:—Having been appointed, under your rules, by your president, to the position of Superintendent of Grounds, I beg to submit the following report of my work:

On the first of May, I had the manure, with which the mile track had been covered during the winter, removed, and finished leveling and fencing the new one half mile track.

This work employed three or four men, for about three weeks.

Nothing further was done until the first week in August, when the work of preparing for the fair was taken up.

The time of the fair grounds team was practically entirely taken up in track work, this being necessary in order to keep the two tracks in good shape for the use of the large number of horses at the grounds this year.

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I had the roofs of the horse and cattle barns repaired, and built a new horse barn built,—a duplicate of those previously erected. This barn cost $1,070.00.

I also fixed over dining hall, repaired fences, cleaned ditches, mended sidewalks, mowed weeds, graded street from main entrance to north end of grand stand, and covered same with crushed rock, relaid water pipe, mowed grass, and in a general way was prepared for the fair.

After the fair, by your instructions, I cleaned up the grounds, took up water pipes and stored them in the buildings, fixed up fences around tracks, broken down by the large crowd of people during the fair.

I beg to report that the water supply seems to be gradually failing, and that it will be necessary to provide some other source of supply before another fair.

The large bridge in the track, at north end of same, is badly rotted and will have to be rebuilt the coming season.

The side walks from the main gate to the grand stand, and from grand stand to the Northwestern ticket office are badly rotted, and should be replaced.

The roofs of the horse and cattle barns, though repaired this year, must soon be newly shingled.

I have collected, and turned over to the Secretary—

From rent of stalls	$399 25
From rent of pasture	209 00
From sale of wood, manure, etc.	19 50
Total	$627 75

There remains due from the Milwaukee Driving club, for rent of stall, $135.00. Trusting that my labor on grounds may meet your approval.

Most respectfully,

GEO. G. COX,
Superintendent of Grounds.

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REPORT OF MARSHAL.

To the Wisconsin State Board of Agriculture,

Gentlemen:—I beg to submit the following report of Marshal's Department for the year 1902.

The total expense of this department was $338.35.. This amount includes pay of mar shal, two assistants, all police for grounds and fences, night watchmen, and watchmen in all the main buildings, as well as paying for the care of grand stand, ladies' closets, care of flags, and the use of six horses, three for marshal and assistants, and three for the use of police or fence guard, placed on the outside of grounds. I think the use of mounted police for this purpose, an improvement upon old methods, and well worth the extra cost.

No trouble occurred in this department, in the performance of its work.

We were ably assisted by a detachment of city police, and I am sure the board will join with me in extending to the chief of police of Milwaukee, and the sergeant and men with him, our thanks for the very efficient service which they gave us, during fair week.

Respectfully,

GEO. G. COX,
Marshal.

DEPARTMENT OR TRANSPORTATION AND FORAGE.

Transportation.

Received for teaming privilege,

John Miller	$8 00
E. Barfus	8 00
E. Neeb	8 00
J. De Grout	8 00
Frank Schulte	8 00
Mr. Morse	8 00
Total	**$48 00**

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There were no expenses and this amount is carried to Forage Division.

Forage.

The daily receipts from sale of forage was as follows:

Sept. 6.	Cash	$39 80
Sept. 7.	Cash	71 90
Sept. 8.	Cash	39 11
Sept. 9.	Cash	48 52
Sept. 10.	Cash	40 69
Sept. 11.	Cash	70 62
Sept. 12.	Cash	528 61
Sept. 13.	Cash	45 08
Sept. 20.	Cash	3 00
Oct. 4.	Cash	11 50
From Transportation Div.		48 00
	Total	$945 93

The disbursements were as follows:

Sept. 7.	Book for Department accounts	$ 62
Sept. 7.	Bills, Tipple	1 65
Sept. 7.	Telephone message	20
Sept. 7.	Telephone message	20
Sept. 7.	Telegrams	1 12
Sept. 7.	Denzer, cabbage	5 00
Sept. 8.	A. Le Feber, feed	50 00
Sept. 8.	Denzer, cabbage	7 20
Sept. 8.	Hart, cabbage	45
Sept. 8.	John Miller, cabbage	2 00
Sept. 8.	Jos. Marks, cabbage	6 00
Sept. 9.	Denzer, cabbage	8 00
Sept. 9.	C. L. Dana, straw	45 80
Sept. 9.	P. Book, beets	5 20
Sept. 10.	Denzer, cabbage	12 00
Sept. 10.	Youngblodt, straw	39 25
Sept. 11.	Denzer, cabbage	8 00
Sept. 11.	Denzer, cabbage	9 50
Sept. 11.	A. Le Feber, feed	85 00
Sept. 12.	Barfus, teaming	2 00
Sept. 12.	McKerrow, overcharge	1 50
Sept. 12.	F. Hohl, cabbage	13 40

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Sept.	12.	Lee, feed returned	1 40
Sept.	13.	J. R. Fleming, team	2 00
Sept.	13.	A. Le Feber, feed	332 89
Sept.	13.	John Le Feber, Supt.	75 00
Sept.	13.	E. Le Feber, Asst. Supt.	31 50
Sept.	13.	A. G. Buckingham, help	16 00
Sept.	14.	W. N. Cornwall, hay	20 00
Sept.	14.	Geo. Douville, help	23 50
Sept.	14.	Geo. Le Feber, use of horse	13 00
Sept.	14.	O. W. Paine, team	30 00
Sept.	21.	Peter Book, hay	27 86
Oct.	4.	A. Le Feber, feed	68 89
		Total	$945 93

Feed Furnished Free.

To cattle, sheep, and swine barns, 32,595 lbs. of straw	$85 05
To fire department, feed, etc.	4 86
Total	$89 91

Respectfully submitted,

JOHN LE FEBER,
Superintendent.

REPORT OF SUPERINTENDENT OF PRIVILEGES.

Received from dining hall and lunch counters, rent	$1,062 00
Received from rentals to shows, etc.	527 00
Received from all other sources	764 50
Total	$2,353 50

An itemized report of the receipts of my department, is filed with the secretary.

Yours very truly,

S. D. HUBBARD,
Superintendent.

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AGRICULTURAL MASS CONVENTION.

Senate Chamber, Madison, Wis., February 5 and 6.

Morning Session, February 5, 1902.

President McKerrow in the chair.

The Chairman: We will open our meeting this morning in accordance with the printed program by first taking up the subject "Growing Farm Vegetables." This subject will be presented to you by Mr. Delbert Utter of Caldwell, Racine county, a man who follows this business on his farm. I trust that when Mr. Utter has opened this subject, you will be ready with a large number of questions, because the best part of these meetings is the question and answer part.

I now take pleasure in introducing to you Mr. Utter.

GROWING FARM VEGETABLE.

Mr. Utter: Mr. Chairman and Gentlemen: The subject assigned me, when compared with the other questions that will come before this meeting, might seem to many of you of little importance, yet I think you will admit that the farmer's garden should receive more attention than it does. From a financial standpoint there is no part of the farm that is as profitable. One half-acre planted to vegetables and fruit well cared for, will pay more money into the common fund than any three acres of the average farm crops, and besides these food products are necessary to the well-being of our families. Doubtless the

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farmers' tables are better supplied than those of any other class, with the starchy foods and sweets; but the housewife recognizes the importance also of a vegetable diet. She knows that her children need it. While the farmer or the stockman will tell you how to grow a calf and will talk to you about a balanced ration, he seems to think very little of what is necessary for the growth of his children. I believe, from my observation, that those who have gardens are apt to take more pains in tidying up their premises. Their front yards have a better appearance. They perhaps own a lawn mower, and the back yards are kept cleaner.

What are some of the disadvantages attending vegetable gardening? As a rule the vegetable garden has been planted as such year after year, and the ground has become hard; and as a rule it is so located that you cannot work a horse on it. I think it is well to select a piece of ground for this use of such form as to allow working it with a horse, and get it away from shrubs or trees, as the roots of these rob the soil. Again we are troubled in most farmers' gardens by the poultry, and I think the garden should be protected by a chicken tight fence.

As far as the condition of the soil in the garden is concerned, it can be largely controlled by use of manure to lighten it up, and, if you have access to muck or peat beds, two or three inches of such loam drawn onto the garden will improve the condition of the soil wonderfully, and benefits will last five to eight years. In preparing the garden for planting, first use a spading or disc harrow, then plow, following with a leveler and harrow, leaving the ground firm but in fine tilth and condition. Small garden seeds require a more careful preparation of soil than the ordinary farm seeds. And we need good garden tools, —a wheel hoe and seeder and some smaller tools.

I would say that may varieties of vegetables can be grown to advantage that are not generally raised, varieties that have longer seasons than the average vegetable. This is so with asparagus, which in the city market is very popular. It has a long season, coming very early; and if the beds are properly treated and cared for it will last a life time. We should select a part of the

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garden where there is no danger of grass working in. Manure heavily and plow and pulverize deeply; plow out furrows five feet apart. Set one-year-old plants 18 inches apart in the row and fifty will be enough for any family. Set so that the crowns will be four to six inches below the surface, filling two or three inches at time of planting and then continuing filling in as plants grow, until the ground is level. Keep up continual cultivation during the whole growing season (by the way, this bed should not be cut for use until the third season) and allow it to make its full growth during the whole season, only not allowing it to go to seed. There are two ways of preventing the seed from dropping onto the ground and seeding. It can be done by cutting out the sprouts that bear seed before they drop, or cut all the tops as soon as they begin to turn yellow and burn them. After the third year you can commence to cut for use, and then cut everything just as soon as it is of right height. If you let here and there a sprout grow up, in a little while you will have nothing but spindling sprouts. Cut everything. You can continue this cutting for at least six weeks.

We do not get the best results with lettuce for the reason that it is sowed so thick that it stops its growth. This is the trouble with many of our small vegetables.

We can forward garden crops by using a hot-bed. While a hot-bed may not be advisable for the average farmer, I think in most any community there are two or three farmers who would be glad to make hot-beds if they could be patronized by other farmers. Lettuce, celery, cauliflower, tomatoes and cabbage can be forwarded in this way. Especially does this apply to tomatoes. We can have them three weeks earlier by this process and they are of better quality. In many localities in this state very few tomatoes ripen.

My method is to make a frame six feet wide by nine to twelve feet long. I use sash three by six feet. We make this frame so that it is movable; 18 inches high on back and twelve inches in the front with sloping ends, and where the sash join together on the frame we put a two-by-two rafter. This is held together and made strong at the corners by using two-by-four posts, let-

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ting them extend three or four inches below the frame. These frames can be removed when we are through using them, as stationary hot-beds are unsightly things in the garden.

In forming the hot-bed we use coarse manure. If there is not a good deal of coarse material in it, mix in some coarse hay or straw and throw into loose pile. When it heats up and steams it is ready for use in the bed.

In selecting a location for this bed we should choose a place on the south side of a barn or fence, in the warmest place we can find, and if well drained it is well to dig out a part, making it a foot larger each way then the frame. Then commence filling the manure in the pit, and it should be just moist enough to pack down well. Throw in three or four inches of manure and pack down firmly, continuing until you have 18 inches in depth. Set frame on top and fill in about six inches more inside the frame and bank up on the outside with the manure to keep the heat in. Then place the sash on the frame and it will commence heating at once, but it is not safe to sow seeds for five or six days, as we wish the rank heat to work off. Open the sash during the hottest part of the dav. After four or five days cover with two or three inches of soil. While you can sow the seeds immediately in this soil, I think it is best to use flats. I use flats of the dimensions of 16 inches wide, 4 inches deep and three or four feet long. This is a convenient size to handle, and in these flats use a compost of garden soil, sand, leaf mould and rotten manure. We put this into the flats and firm well, filling within three-fourths of an inch of the top. We sow the seeds in rows in these flats. I would say that the seeds do not need to be sown as deeply in the hot bed as outdoors, just deep enough to germinate. The soil in the hotbed will dry out very quickly if not protected, and we protect by covering them over with gunny sacking or light cotton cloth, and we do that before watering. Then we can sprinkle on top of this cloth and it will not wash out the seeds. Keep this covering on until the seeds begin to terminate. Lift the covering two or three inches and leave it another day; then shade the glass during the hottest part of the day. During this period the hot-bed will have to be aired

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as the heat will rise too high. The heat should not rise over 90 degrees and there should be a night temperature of 60 degrees.

Transplant into larger flats, as soon as the second leaves are started. One advantage of flats is that you can move them into the house or outbuilding that is warm enough to work in, while transplanting. In the second transplanting we put more soil on the beds in hot house and transplant to them. At the last transplanting, plant into a cold frame, which is much the same as the hot house frame described, except that we have no bottom heat. We use simply good soil. It is well to provide that with a cloth cover. There is a cover that is advertised for the purpose which is impervious to water, but in a small way it is as well to use the cotton cloth, making a frame the same size as glass sash in hot-bed and stretching the cloth over tightly. If it is not stretched it will sag. Cover this with a preparation of raw linseed oil and eggs (two well beaten eggs to one pint of oil) that will keep the heat in and will shed the water. Put this on with a brush. You can make a hotbed the first of April and use the cloth for a cover instead of glass. When you transplant the last time in the cold frame, the plants should be at least four inches apart and should be grown at a low temperature, giving air each day.

I have been very successful in using a hotbed for starting melons. About the last of April or first of May is early enough to start these. Use fresh heated manure in the beds, and on these place inverted sods about six inches square and three inches thick for each hill. We place these on the fresh manure, and plant at once. Plant five or six seeds in each hill and keep closed until the seeds start. They will stand an immense amount of heat when sprouting,—130 to 140 degrees will not injure them. As soon as they are out of the ground they will need a little airing. They will make rapid growth. I have had them out of the ground in four days. All the seeds will germinate and while it seems a tiresome job, it is not so expensive as it seems. I planted last year two and one-half acres. When they are transplanted they are far enough along in the

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season so the bugs will not injure them,—there is nothing to injure them after that time.

In the cultivation of garden plants, as soon as the plants are through the ground we should commence caring for them,—going through with a horse cultivator, if possible. Keep the ground always loose and friable. Cultivate once a week and continue this cultivation right along.

We have in the garden, perhaps, more insects to contend with than in our farm crops. We have the striped bug on cucumbers, melons, etc. While I have tried very many advertised remedies for these, I have found none better than the ordinary land plaster. There is nothing they will eat that will poison them. You can only drive them away and rid the plants of them. For cabbage worms, etc., Paris green, used before cabbage begins to head is a safe and reliable remedy.

Discussion.

The Chair: We will enter into a discussion of this subject, and there are many points on the farmer's garden which Mr. Utter has not touched, but I think there are people enough here to touch all sides. Let us have questions and suggestions along this line.

Mr. Convey: Mr. Utter stated as to the cutting of asparagus, that he cut it after the third year.

Mr. Utter: During the third year.

Mr. Ames: What did the gentleman mean by a "muck bed?"

Mr. Utter: Any marshy soil, whether it is peat or muck,—anything that has vegetable matter. The idea is to get the vegetable matter.

Mr. Ames: At what size do you plant these melons form the hot-bed to the open soil?

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Mr. Utter: From four to ten inches,—not less than four. It is usually when they are beginning to run. They are perfectly safe to transplant in the sod. Before the transplanting the sods should be thoroughly saturated with water. There should be enough moisture in the sod to carry the plant for a week of very dry weather.

Mr. Ames: Do you have the sod as tender as possible?

Mr. Utter: The quality of the sod should be nearly sandy loam.

Question: A blue grass sod?

Mr. Utter: Yes.

Question: Or just whatever you find?

Mr. Utter: Not much depends on quality of sod and if it has been well fertilized it is better.

Mr. McKerow: You look for the richest spot in the pasture?

Mr. Utter: Yes, other things being equal.

Mr. Brigham: Can you raise squashes?

Mr. Utter: I had to give up growing squashes. I understand they can be grown farther north. Last year the squash or stink bugs even spoiled my early crookneck squashes. The only way to protect them is by hand picking. I know of one gardener who sold crookneck squashes during the whole season for one dollar a dozen, protecting them by hand picking. It would have paid to hire men at $2 a day for that work, but it must be insistent.

Mr. Convey: I would like to have Mr. Utter give a more definite description of how to plant and raise tomatoes, both in producing the plant and in after treatment.

Mr. Utter: In selecting varieties, I think the Dwarf Champion is as good as any, where there is no danger of blight; that is an excellent variety and early. The Stone is excellent for a later variety.

Mr. True: Would it be good for canning purposes?

Mr. Utter: Yes, the Stone is. There are some other vorieties. I have never patronized a cannery, and I do not know what varieties are the best, but I think the Stone is a popular

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variety. I would say for general use the Dwarf Champion and Stone are as good as we can grow. There are new varieties introduced every year.

Mr. Convey: How many transplanting do you make?

Mr. Utter: I would transplant just as soon as the second leaves start, and put them one to two inches apart in the row. And then again just as soon as they are beginning to stretch out so that they are shading the ground, transplant a second time and if they get the start of you it is well to clip the tips and then they will start laterals. Keep them transplanted as often as they begin to stretch up. I transplant generally a third time, but two transplanting makes them very good.

My method of transplanting into these flats is, instead of making a hole for each plant, to make a furrow across the flat, using a strip a little longer than the width of the box, and crowding the dirt back with this and laying the plants so that they are against the furrow, and then pressing the soil along the whole row of these plants rather than planting each plant at a time. This makes it much more expeditious. It takes a good deal of room in the cold frame at the last planting, setting the plants four to six inches apart, and I would add that the planting is done deeper each time. They will start a new set of roots along the stalk of the plant, so you will have a very deep-rooted plant. In the garden they should be four to six feet apart in the row. They are the most easily grown, I think, of any crop.

Mr. Favill: Do you ever put anything around them to hold them up?

Mr. Utter: I always let them lie on the ground. While a trellis may be used, I think it is not practiced generally.

I think it is advisable for farmers to send to the seedsmen for their catalogues, not only for the price-lists of seeds, but there is very much general information in these catalogues in regard to culture. Especially in peas there are improved varieties which are much better than those we have been used to planting. The variety called the Gradus is as early as any, and excellent in

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quality; that, followed by the Telephone, makes a season of several weeks. The pods are four times as large in both varieties as the ordinary varieties.

Sweet corn is considered a very common vegetable by many farmers. In the cities there are some hotels that have it during the entire summer and serve it every day, and among the best trade in the cities it is in the greatest demand. The farmers do not have it in the right condition for any great length of time. There are only a few days that one planting is in fit condition to eat, but by having several varieties and several plantings you can have corn in good condition for from six to ten weeks.

I would advise for a very early corn the Mammoth White Cory followed by two plantings of the Crosby and Country Gentleman and the early and late Evergreen. These are all of excellent quality.

Mr. Seymour: What time do you start a tomato plant in the hot-bed?

Mr. Utter: About the last of March or the first of April. We start sometimes the middle of March. It should be about six or eight weeks before the ordinary time of planting out in the open ground. We do not calculate to transplant tomatoes earlies than the 20th of May to the first of June.

Mr. Brigham: Do you plant the late corn considerably later?

Mr. Utter: The early corn I would plant as early as possible and the late about the time we plant field corn.

Mr. Brigham: The middle of May? A. Yes. I would make one planting as late as the first of June,—even as late as the tenth of June.

Mr. Ames: One of the worst weeds that we have to content with is the cheese plant or mallows, and I am ashamed to say that it grows in my garden and is inclined to creep in a little more and more. There is no way, I guess, but to give up that garden patch and attempt a new one. It even gets into the strawberry beds.

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Mr. True: When the ground is wet the plant can easily be pulled up with the roots.

The Chair: Of necessity we make a change in the program and take up as the next topic the last subject on the forenoon's program,—"The Beet Sugar Industry."

We have been waiting a good many years for Wisconsin to get some sugar manufactured from Wisconsin beets. Unfortunately the early financial condition of the factory started in this state was not right, but I am pleased to say that now Wisconsin has made sugar from Wisconsin beets. It has been successfully made this past season. We have here with us today the agriculturalist of she Wisconsin Sugar Factory, who will address you on the subject of "The Beet Sugar Industry."

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THE BEET SUGAR INDUSTRY.

BY

A. F. Postel, Menomonee Falls.

Now, that the factory at Menominee Falls has completed its first season's run, we may consider the beet sugar industry in Wisconsin as successfully started. This is the beginning of an industry which is destined to become of great importance to our state.

It has been ascertained that we send $7,3000,00 in cold cash out of this state every year with which to buy sugar, and there is no reason why this large amount of money should not be kept at home. We have a superior beet soil, favorable climatic conditions and an intelligent, progressive class of farmers, who will make beet-culture a great success as soon as they become thoroughly acquainted with the raising of the crop. Hereto comes that our well developed dairy industry is the best possible basis for the beet sugar industry, in that it provides a market for the chief by-product of a beet sugar factory, i. e., beet pulp. The value of this pulp as a cattle feed has been demonstrated this season to the satisfaction of our beet growers who used and fed it intelligently. This is proven by the fact that the demand for pulp exceeded the supply.

Speaking at present of the possible supply of our home demand for sugar only, let us figure up what this would mean. It will mean the building of nineteen more factories, each of a capacity equal to that of our own Menomonee Falls factory, i. e., of from 500 to 600 tons of beets per day; the investment of $10,000,000.00 in twenty factories, which money would be largely expended for building material, machinery and labor employed in the construction of the factories. It will also mean the raising of something like 100,000 acres of sugar beet every year by about 30,000 farmers who give employment to perhaps the same number of farm hands; it will mean the distribution of at

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least $5,000,000.00 annually for sugar beets by the factories and of $1,500,000.00 for other supplies and for wages paid to about 4,000 employees.

There is no doubt but what the beet sugar industry in this state will grow steadily from now on, providing the tariff on imported sugars of every description is left undisturbed and confidence in the stability of the protective policy of our government is restored. Our beet sugar industry is in its infancy and needs protection for at least ten years to come. If this protection is assured, capital will be willing to invest in beet sugar factories in such localities where the necessary requirements for the successful establishment of a factory are favorably met with. The main factor in deciding the establishment of a beet sugar factory in a certain locality, will be the willingness of the farmers to raise beets, so in fact the more or less rapid development of the beet sugar industry in the state rests with the farmers. Yet there is no reason why the beet sugar industry in our state should not develop as fast as in our neighboring State of Michigan where eighteen factories will be in operation next season, this being the fourth year since the first factory was built in Bay City.

We have made a successful beginning and no doubt will be able to achieve great success if the farmers of our state will take up beet-culture as willingly as did those of our neighboring state. One of the decided advantages the raising of a crop of beets offers the farmer, is the fixing of the selling price of beets before the seed is even planted. This eliminates the speculative feature from the marketing of the crop. The successful growing of sugar beets necessitates thorough culture and a rotation of crops, thereby bringing about heavier crops, diversified farming, the elevation of the status of farming in general, and last but not least, a consequent rise in the price of farm lands.

That the sugar beet is the most reliable and a very profitable crop for the farmer to raise, has been demonstrated this last season where, in spite of the prevailing dry weather, quite a number of our beet growers realized over $50.00 per acre from their crop of sugar beets. Hereto must be added the value of the beet pulp, which the beet growers receive free of charge at the rate of one-half ton of pulp to one ton of beets delivered at the factory, and which in the above cases amounted to another

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$6.00 per acre, the selling value of the pulp being $1.00 per ton F. O. B. factory. There is no doubt but that in the course of time the farmer will come to regard his crop of sugar beets as his mainstay.

To get the best results in beet culture, it is necessary that the proper soil be chosen. A sandy loam, loam or easily tillable clay soil well drained and with a substantial sub-soil which will hold moisture well in case of a dry season, are the soils best adapted to beet culture. The soil must be rich, although not too one-sidedly rich in organic or nitrogenous matter; it should above all not be freshly manured the same spring that the beets are planted. The preparation of the beet soil should begin the year before the beets are planted. If beets are to follow small grain, remove the latter from the field as soon as it is cut, and pulverize lengthwise and crosswise, harrow, roll and harrow again. In case the pulverizer should not work, plow shallow, harrow, roll and harrow again lightly. The rolling and harrowing combined will preserve the moisture in the soil if there be any, and start weeds and fallen out grain quickly. As soon as the field looks green with vegetation, apply your manure, if manuring is necessary, plow it under, harrow, roll and harrow again and raise another crop of weeds. Late in the fall plow deep, yet be careful not to throw much more than an inch of sub-soil on top.

To deepen the soil sufficiently use a sub-soil plow and loosen the bottom of your furrow to an additional depth of six inches or more. The sub-soil plow is drawn by two horses and follows the breaking plow. The very deep stirring of the soil is very essential as it will enable the beet to grow down rapidly and draw upon the moisture and plant food of the lower strata.

Soil prepared in this way will have a greater capacity for storing moisture over winter, and will produce a beet of nice shape with but one long, smooth root, showing no tendency of growing out of the ground. In case you intend to plant your beets on potato or corn ground, well manured in spring and kept free from weeds during the growing season, plow deep and sub-soil after the crops are harvested in the fall and the corn stubble is removed from the ground. Then let the soil lie in the rough furrow over winter. The sub-soiling, by the way, should never take place in the pring, as it is very hard to pack

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such deeply stirred soil sufficiently. It will remain too loose, and consequently dry out more quickly.

The first work to be done in the spring is, to harrow the soil so soon as it becomes dry enough on top and the horses can walk over it without leaving too heavy foot-prints. By pulverizing the soil as finely as possible on top, we preserve the moisture that has been stored in it over winter, and we also encourage the weeds to grow. After this, harrow at least once a week until the time for planting arrives, which extends from the beginning to the end of May, the beginning of May preferable.

If the soil must be plowed in spring, do so as early as the condition of the same will permit, but harrow, roll and harrow again at least once within a half day, so that the chance of drying out will be reduced to a minimum. Then harrow at least once a week as heretofore stated, until planting time arrives.

To prepare the seed bed use a pulverizer, a spring tooth harrow or the cultivator attached to your broad-cast seeder, loosen the ground to a depth of from four to five inches, i. e., sufficiently so as to bring the moist soil from underneath on top, harrow, roll and harrow in quick succession, so that the soil has no chance to dry rot. How often the rolling and harrowing has to be repeated you must judge for yourselves, but bear in mind, that the soil must be packed well on top, as this will draw the moisture from the sub-soil to the surface and help to germinate the seed. After the last rolling, a very light harrowing with the teeth of the harrow well thrown back, should be given so as to create a mulch on top, in this wise preserving the moisture in the soil and preventing the latter from heavy crusting after a beating rain. Then plant across the harrow marks, north and south preferable, and don't drop your seed any deeper than one-half to one inch. The heavier the soil, the shallower the planting must be, as otherwise the plants may not come up at all, but grow sideways underneath the crust, or the seed might rot in the ground in case of early planting and wet, cold weather. Have your rows twenty, eighteen or still better, sixteen inches apart, and plant not less than from eighteen to twenty pounds of seed per acre, this being very essential in securing a perfect stand. And a perfect stand you must have to

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get the best results in raising an all round good crop of sugar beets.

So soon as the beets show above ground, which may be from one to two weeks after planting, cultivation begins. In some cases it may become necessary to cultivate before that time, for instance, if after a heavy rain a crust should form on top, it would then be advisable to break it. If you have harrowed lightly after the last rolling and planted across the harrow marks, you will be enabled to follow the distinctly showing marks of the seeder press wheels with the cultivator without disturbing the germinating seed. This aerating of the soil will help to bring the beets out quicker. After this, one shallow cultivation a week will suffice to keep the weeds down and the soil stirred on top, so as to preserve the moisture in it. Bear in mind, that the deeper you cultivate, the more you will dry out your soil.

When all the beets are well out of the ground and begin to develop the third and fourth leaf, the bunching may begin. Take a six inch hoe and hoe right across the row, leaving bunches standing about two inches long. So soon as this is done and the beets showfour well developed leaves, the thinning out should begin. Take care that but one beet remains standing, preferably a beet which stands singly outside the bunch, as this is generally the strongest plant. Go ahead with the work of thinning as fast as possible; proper bunching will enable you to do that.

After thinning, cultivate, and repeat this as often as heretofore stated. It may be necessary and will be beneficial to hoe between the beets once more, but for work between the rows, the cultivator should and will be sufficient, if used often enough. So soon as the tops grow together and no more cultivating can be done without breaking off leaves, it is time to lay by the crop. The breaking off of the leaves should be avoided as it is through the influence of the atmosphere and sunshine upon the leaves by which the sugar is elaborated in the beets. The laying by of the crop will take place in from two to two and one-half months after planting, i. e., from the beginning to the middle of July. In this wise the work in the beet field would and should not interfere with the work in the hay or harvest field.

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The latter part of September, or beginning of October, the harvest begins. The first work in harvesting the sugar beets consists of the lifting of the latter with the help of the horse beet lifter. The lifter is drawn by two horses and straddles the row. It loosens the beets but leaves them standing in the ground. The capacity of the lifter is about two acres per day, sufficient for several days work of pulling and topping. After the beets are lifted, they are pulled, thrown in rows or piles, then they are topped, thrown in larger piles and immediately covered with the tops, so as to protect them from the drying out influence of wind and sun. This protection is sufficient for beets that are to be delivered to the factory during the months of September or October. Beets for November delivery should be harvested the latter part of October, brought into roof-shaped piles containing about two wagon loads each, and in addition to the leaves should be covered with about two inches of earth. At two places in the top of the piles drain tiles or bunches of straw should be inserted for ventilation. In this wise the beets will keep well, and the uncovering is rendered easier in case of frost as the dirt cover will peel off together with the leaves.

In conclusion I wish to state, that our Agricultural Experiment Station, especially Prof. Henry and his able assistant, Prof. Woll, deserve great credit for the work they have done in behalf of the beet sugar industry in this state. They have kept the interest in beet culture alive during the past twelve years by distributing seed among the farmers of the state, analyzing the beets, compiling and publishing the data so ascertained, and have in this wise provided the foundation for the beet sugar industry to build upon.

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DISCUSSION.

Mr. Postel: I will give a list of a few of the farmers who received over $60 per acre for their crop of sugar beets in 1901, which proves that the sugar beet is one of the most valuable crops that the farmer can raise.

	Acres.	Amount.
Louis Gettleman, Germantown	2	$128 23
Joseph Coatts, Sta. B, Route 1, Milw. Co.	2	120 34
H. H. Rowell, Menomonee Falls	2	155 12
Joseph Wick, Menomonee Falls	1	60 16
Henry Rocktashel, Menomonee Falls	2	121 91
Erig Schneider, Menomonee Falls	1	69 61
Otto Liebau, Germantown	2	136 71
August Gruenwald, Thiensville	1	61 75
Herman Brueggemann, Granville Station	2	182 28
Fred Maass, Granville Station	1	68 09
Ludwig Krull, Sta. B, Route 1, Milw. Co.	2	154 45
Albert Rowe, Brown Deer	1	65 46
William Kittinger, Caledonia	1	66 41
Henry Yanke, Granville Station	1	61 35
Adolph Witte, Silver Springs	1	67 59
Albert Wendorf, Silver Springs	1	76 55
William Michael, Brownsville	1	75 30
George Keller, Le Roy	1	74 19
William Beitz, Brownsville	1	92 41
Ferd. Albert, Mayville	1	65 19
Nicolaus Hofman, Mayville	2	120 49
A. J. Clark, Mayville	1	77 92
Henry Raabe, Mayville	1	93 14
H. F. Ruedebusch, Mayville	1	73 58
Chas. S. Brown, Whitefish Bay	1	121 38
Geo. C. Ische, Sta. E, Milwaukee	1	64 96
Charles Hinrichs, Dillman	2	125 36
J. William Laun, Dillman	1	60 52
Henry Engeleiter, Allenton	3	200 42
Andrew Redig, St. Lawrence	1	62 84
Fred Musfeldt, Milwaukee	1	93 18
William Giessfeldt, Milwaukee	3	271 66
William Braid, Berryville	3	232 76

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John J. Schwartz, Kenosha	1	61 03
F. L. Hansche, Racine	1	60 85
J. H. Gehring, Berryville	1	97 81
Frank Piper, Racine	1	60 77
C. J. Barrows, Berryville	1	67 91
Joseph Post, Granville Center	2	151 59
H. P. Tennessen, Kenosha	1	84 97
Gust. Grober, Sta. E, Milwaukee	1	80 66

Mr. Faville: Are those gross receipts?

Mr. Postel: Yes, but that does not include the pulp. They get half a ton of pulp to one ton of beets free. They get that free of charge. One acre well attended to will be better than five acres not taken care of. We had a number of cases where they seeded five acres and did not take care of them and barely got enough out of it to pay for the seed.

Mr. Faville: It is like any other crop, the better the care the better the results.

Mr. Carlisle: What is the estimated cost of raising an acre of beets?

Mr. Postel: Well, that varies according to the managing ability of the farmer and according to his habits,—whether he is a lazy or an industrious one. I know farmers that told me they proceeded according to my instructions in regard to thinning out the beets nad did the work when it was time to doit, when the beets were beginning to develop their fourth leaf, and that it took them a day and a half an acre for bunching. Thinning ou the beets would take some three days. There were four and a half days' work bunching and thinning. That was done by several. In another case a farmer and his whole family were in one acre for two weeks. The cost varies from fifteen to fifty dollars. The average cost, as I say, if it comes to several acres and and you have to hire practically all your help, is around the $30 notch.

Mr. McKerrow: That includes harvesting? A. Yes. I took charge of a 30 acre field through the season. I got it done including lifting. The lifter has a capacity of two acres per day, which would be equal to the capacity of a plow.

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We had to pay for the time $3.50 per day. I think it was two acres per day because I happened to be on the spot, and it cost me, including lifting, pulling, topping, bringing into piles and covering, just $8.00 an acre for harvesting. And then the hauling, which was done at that time for something like 35 cents a ton.

Mr. McKerrow: Was it a short haul?

Mr. Postel: No. Some farmers had to haul their beets a longer distance, and they preferred to haul by wagon ten or twelve miles and get the pulp.

Mr. Carlisle: Have you any estimate as to that 30 acres?

Mr. Postel: Around that notch, $30. Of course, you take the horse work and all that, the hand work in thinning, as I said before it can be done within that time, but you could allow six days for bunching and thinning. We had to pay $1.25 per day. We did have some children at less. You can easily figure out what that kind of work will cost. The hand work in the spring and in the fall. I think it is safe to say that it can be done for fifteen dollars, provided that the manager is on the spot to oversee the work. Then the rest of the thirty would be left for rent at a moderate rate, as is usually paid on that kind of a farm, and for the horse work and for the seed, etc. It cannot be done for that if it is not managed well. I know a great many farmers who have done it for that. Not far from Iron Ridge a farmer made a contract for five acres and he got $75 an acre. I know a good many of my neighbors did not make half as much.

Prof. Carlisle: Could you raise beets successfully in rows wide enough apart to admit a horse cultivator?

Mr. Postel: Yes, but I should prefer to have them closer. I believe that with a smaller size than a big Percheron horse you can raise them at, say, 16 inches. Then, again, 20 inches will do. We prefer the wider distance. The tops do not shade the ground so quickly, and it gives the ground more chance to dry. If the beets are planted more closely you can give them more room the other way and this gives each individual beet the same fighting chance. In this wise it is much better to set

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them as nearly square as possible, but I believe fourteen inches would be the best width to have them apart, provided you have an animal that is not too heavy and can walk in a fourteen inch row. In Germany, where I got my experience before I came to this country, we had them fourteen inches apart and we even used oxen in cultivating them when they were not too wide steppers in front. We used them in fourteen inch rows. The horse will step on a beet once in a while, and if the soil is not left too loose, so soon as it lifts up its foot the beet will begin to straighten up. It is entirely a matter of preparation of the soil, and I do believe that the raising of the sugar beet will bring this about,—that the farmer will learn how to preserve the full moisture of the soil much better. We tell them: Here, you have got to harrow as early as possible in the spring in order to preserve the moisture of the soil wherever you have fall-plowed the ground. We had a fair illustration of that. We had about thirty acres about a mile from the factory, and in the farm near by they intended to plant two acres. We did not have our roller on hand when we wanted it and I went over to borrow a roller. I told the farmer we were trying to make the soil fine on top in order to preserve the moisture. He replied: "It is going to rain." I told him it would be very well just the same to harrow the soil and make it fine on top. He had his two acres and they were rolling. We went ahead with the work, making the soil fine on top and preparing it to begin planting. His soil was lying in the rough furrow for several weeks, and when the rain did not come, of course he had to prepare his soil and plant his beets. On the knolls he did not get any beets started. He only had beets in the lower places. Whereas, in our field we had a pretty good stand although the surface was rolling.

Prof. Carlisle: Do you think the growing of beets is an object lesson for the average farmer?

Mr. Postel: Yes, indeed. It will draw his attention to the preparation of the soil and tending to the crop and applying it to other farm crops. Suppose he would treat his corn soil like his beet soil. It is not very often that I find a farmer that has

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not received some good from this. If the crops did not turn out well they found fault. They did not figure that they were responsible for it. I found one farmer who said: "I tell you, if I make not a penny out of my beets, I have learned enough of you this spring to pay me fully." He came out well. He got $60 an acre.

Question: You spoke, Mr. Postel, of horse cultivators.

Mr. Postel: Yes, we have two and four-row cultivators. The four-row cultivators work very well. We used them in Watertown. Where the sail is level and the farmer is careful in preparation, a four-row cultivator would be the thing. Of course, it is more expensive for the average farmer. For the two-row cultivators we needed one man to walk behind the cultivator and a boy to lead the horse to begin with. After we had broken the horse in, in a couple of weeks, we did not need the boy. We used the four-row cultivator in our 100 acre field almost exclusively.

Mr. Brigham: What did the 100 acre field cost?

Mr. Postel: About as much as was gotten out of it this last season. They had to do everything by hiring their help and had to pay eight dollars rent per acre, etc. Last season was a very dry season and the soil happened to be heavy; it would have been very well if that soil had been farmed, but it had been used as a pasture. It was the best we could do under the circumstances.

Mr. Van Meter: Do you consider beets exhausting to the soil?

Mr. Postel: Not at all, if you take the pulp and feed it to the cattle and bring the manure back to the soil. There is nothing taken but the sugar. The sugar comes through the influence of the atmosphere and suction from the roots. It is not taken from the soil. It is only the storehouse,—the fiber, the solid matter, etc.

Question: Would you advise a little dressing of some form of nitrogen during the growing season,—would it be of benefit to the crop?

Mr. Postel: I do not know whether it is necessary. We did

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it in the old country and it has been suggested here. I did try it in Norfalk, Nebraska, and I did not see much difference. As a matter of fact it did not pay. If we have our soil in a proper state of cultivation, here especially in our dairy districts where the farmer is used to drawing the manure onto the farm, I do believe that we can get along without a fertilizer if the soil is in a proper state of cultivation.

A Member: And you rob the balance of the farm to feed these few acres; that is so in the tobacco region.

Mr. Postel: You see, in raising tobacco you extract so much fertility from the soil. It is gone forever. You sell it as you do your grain; it is gone. But in sugar beet culture it is not so. Our farmers sell the beets and they take back the pulp. We take from the beet only what was put there by the influence of the atmosphere and suction of the roots. It was not taken from the soil. The farmer takes back the pulp and feeds it to his cattle. In this way you can go no raising beets in proper rotation year in and year out. If the soil is in such a state of cultivation as it is where grain will lodge you can probably raise a few consecutive crops of beets, but I should not advise it. In this climate we have hot, dry summers to propagate insects. It is the same claim I made twelve years ago when Mr. —— asked me whether it would be advisable to plant beets after beets and if the sugar content would increase and the beets would become somewhat smaller. I told him I would not advise it, because I had had experience as a practical farmer. I thought the insects would multiply just as they do when wheat is raised after wheat,—the Hessian fly, for instance

Question: What insects?

Mr. Postel: The same insects that you have on vegetables, —the flea beetles, the striped beetles, black bettles, etc. These insects find sugar beet leaves very good to feed upon. They do not harm the crops at all if raised in proper rotation. At Schuyler, Nebraska, your former Governor Rusk had an experiment station placed. They raised beets there in 1890 on the experiment plat and the next year they raised beets in the same plat and on a plat adjacent. The first plat was bothered a great

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deal the second year with the striped beetle and the plat next to it they did not touch. Consequently, there seemed to be something in the fresh beets—in the newer plat that did not tempt them to feed upon them. In this respect I believe that it is far better to grow in proper rotation.

Mr. Convey: The matter is receiving a good deal of attention, and a good many people would like to know what natural advantages are necessary for establishing a beet sugar factory. What are the natural advantages required?

Mr. Postel: The natural advantages for establishing a factory would be a good supply of water. That factory at Menomonee Falls had been located there by the man who first came there four years ago because he thought there would be enough water in that little river. But it was dry last season. They had several bore holes and did not have enough water. First there would be plenty of water. The next requisite is transportation facilities. If you have two railroads, for instance, between which you can locate, you will get better rates. Where you have to depend upon one road you are at the mercy of it. You want water, transportation facilities, available labor supply and building material at reasonable figure. And another thing, beets,—plenty of beets. Because, if you have plenty of water, shipping facilities, labor supply and all that, and your farmers are not willing to raise beets, you can do nothing. Do not try to establish a beet sugar factory ahead of the beet supply, because you will not have beets enough for several seasons. We had a hard time to get enough beets. Of course, the dry season was responsible for that. But the farmers, not being acquainted with the raising of the crop, are not liable to make a howling success the first season, and there are not very many people who are so honest with themselves that they will say: "I have been to blame for it and nobody else." And so a good many will find fault with the crop. A good supply of sugar beets and willingness on the part of the farmers to raise sugar beets, in addition to these natural requirements, will enable a man to go ahead and build a sugar beet factory and it should be a success. There is no reason why it should be a success.

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There is not reason why it should not be a success from the beginning if these requirements are favorably met with. The willingness of the farmers to raise beets is almost the main thing. Of course, the willingness of the farmers to raise beets in localities where the shipping localities would be bad or where the water supply would be short would not be conducive to establishing a factory there. The requirements have to be met simultaneously. We need twenty factories in this state in order to supply the home demand for sugar. There are nineteen more localities where sugar beets could be raised. In Michigan there are eighteen factories running this year, the first factory having been established four years ago. I know we have satisfactory soil, because this last season the average sugar per cent. that we had was very much larger than at any other new factory outside of, perhaps, California.

Question: Do you consider the dry season responsible?

Mr. Postel: Yes, providing it had not been for the fall rains. I say, if we had had these rains in the spring the beets would have been somewhat larger, but if we had had no fall rains, I do believe we would have had the same sugar. Although the soil has not so much to do with the elaborating of the sugar in the beet, still there is soil which will produce a better sugar beet than other soils. Take the soil from a limestone formation. We are on a limestone formation. Our soil is a lime soil mixed with decayed vegetable matter. That is the best soil for raising sugar beets. In the old country, in the province of Saxonia, there are 117 sugar factories upon an area covering about six of your counties here. This means that a sugar factory would come to about every one and a half townships.

Question: Have they a similar soil to ours?

Mr. Postel: A loamy soil—clay loam and lime both, that is, intersected with lime in the sub-soil. That is the soil which seems to develop,—which makes the beet more amenable to taking on sugar. It does not develop the sugar itself, but seems to put the beet in such a frame of mind as to store up plenty of sugar.

Mr. Convey: Is the Nebraska soil similar?

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Mr. Postel: No. There is some there which is similar, however. But in Nebraska there is a black, sandy, loam, and some of the soils are clay soils. Around Norfalk they have a clay soil and they are raising very good sugar beets too. I had two brothers, both on the list. One raised three acres and one one acre. The man who raised three acres had over $90 an acre. He had his beets on dark soil. The other brother had one acre and got $93 on a clay soil. The dark soil happened to be underlaid with clay which was comparatively right and light.

I cannot see the reason why we should send our cold cash out of the state when we can keep the money here in the state. This $7,300,000 will double and triple and quadruple if it remains to circulate in the state. We can do it. Of course, there is this much to say: The beet sugar industry needs protection. We are not as yet in shape to compete with the European sugar. In Cuba the soil is very fertile and they can produce sugar cheaper than we can now. We may come to a point, and will come to a point, where we can make beet sugar cheaper, provided the farmer knows how to produce a good crop of sugar beets with less expense, and where he can afford to take somewhat less for it and yet make a good thing out of it. We can make beet sugar cheap, so that the people will also have the benefit, besides having the benfit of having the money in the country. We send over $100,000,00 out of the country for sugar. The sugar is manufactured in foreign countries. There is only a fraction of our sugar supply that is manufactured in this country. The rest is raised in Cuba, Germany, etc. We can do it all here. It has been demonstrated. We should enjoy this protection just as well as the steel industry. There may come a time when we can do without it.

With every new factory there is a short supply of beets. We must above all have a full supply of beets. Then there is this disdavantage with a new factory. A new factory will have a hand at each station that is conversant with that particular kind of machinery and the rest of the hands are green. They have to be broken in. It is almost impossible the first season to run

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to the full capacity. We had to do a great deal of pioneer work that the factory had to pay for. We have sent out a good man to lecture to the farmers and instruct them in the culture of the sugar beet. In this way, before the factory is in such position that it can make money and get back a part of its investment, it will be several years before the farmers will have the sugar beet culture developed to such an extent as to make money. That is why protection is needed for the industry. They have a corporation plant at Michigan. I don't know how much they will get soaked this season, but they will find out that it is not all money to begin with. Take the risk a manufacturer runs. There is an investment of a half a million dollars. The farmer is not taking any risk. We give him the seed and he is supposed to pay for it in the fall. We did loan them machinery, although now we try to induce them to buy it for themselves. We could not go on everlastingly jumping after each man. In some localities the farmers were disgruntled because they did not get a cultivator soon enough. We hunted it up and found it standing in the shed of a farmer who had not used it. The farmers ought to own their own machinery, but last year we furnished it because they would not buy it themselves, as they did not know whether they were going to get any money out of their beets.

Mr. Everett: What is the feeling among the farmers who raised beets last year and what are the prospects for next year?

Mr. Postel: We have made a number of contracts and most of the farmers are inclined to raise beets again. We have not pushed matters very hard because we have been busy. We only closed down ten days ago and we had to fix up our books, so we have not pushed the matter very harl. But we did send out blank contracts and a number have sent them back. And we have sent out a few solicitors and they come back with contracts in their pockets. Many of the farmers say: "I am going to sign, but I do not know whether it will be for one or two acres; I am first going to see whether I can get certain men to hire." And so it goes. We think we will get a pretty good acreage. This is not so fast work as it would have been had we had a

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good growing season. A good many farmers did not do very well because it was very dry and a good many of them did not do the work as it should have been done, and consequently they were disappointed. Now they are hanging back a little. This is the case with every new factory. The first and second seasons they have to hustle for the acreage. If the coming season is good most of the farmers will have good crops, and they will come to our office and say they want to raise three to five acres of sugar beets next year. They are now getting very high prices for potatoes. A good many of them think: "I will raise potatoes because they will pay me better than beets." This militates against our getting the acreage fast enough, but we are getting it.

Mr. Wright: Did you say that you had half a million dollars invested?

Mr. Postel: Take it together, in the plant and machinery and the running capital, it takes half a million dollars to start a beet sugar factory. You have to have sufficient capital to carry you over when you start a sugar factory. If you run short the first season, as we did this season, you have to have enough capital to pay for the beets and carry you over the next season. In this wise, you cannot get out with as little capital as possible, because you will break your neck.

Mr. Welsh: Did I understand you to say that your brother raised $90 worth of beets to the acre? That was net?

Mr. Postel: That is all gross earnings. That means he received that for his beets.

Mr. Welsh: What would be the expenses for that acre?

Mr. Postel: I answered that question here before: It would depend upon the ability of the farmer and whether he was industrious or the reverse of it. But, you take it on the average, with a man who knows how to do the work and it will be around $30.

Mr. McKerrow: Can you give us about the average content of sugar of the beets this year?

Mr. Postel: Well, there were very few beets that did test below 13 per cent., and they were raised in soil that had been

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manured in the spring,—where it was one-sidedly rich in nitrogenous matter. The average will be between 14 per cent. and 15 per cent. A good many farmers received $5 a ton for their beets, but you take the average and it means 15 per cent. or $4.75 per ton.

Question: Why do you need protection? Is it not a good enough profit to receive $90 per acre?

Mr. Postel: There are not all farmers that get that much. It ought to be the aim of the farmer to get there. It is necessary for a farmer to get $60 out of it in order to induce him to stay in the business of raising beets. I figured up how many farmers had received over $50 an acre, and it was something like 20 per cent. They have first to learn how to get there. In the meanwhile we have a short supply.

Mr. McKerrow: On the other hand, there are farmers who do not get expenses out of the acre.

A. Certainly. A good many did not even pay for their seed. It takes time to learn. It takes several years, because a good many farmers that did not get good results will drop out and there will be new men to instruct again. Before beet culture is established so that a farmer can make good profit, and yet take less for his beets because we receive less for the sugar,—before these things can work out, it will be several years. What are the farmers kicking about? Here is an industry where protection will protect his every interest. How much does the farmer get out of the protective tariff?

Mr. Brigham: Suppose they lower the duty on the Cuban sugar, would we not still have to import European sugar?

Mr. Postel: Perhaps for a year or two, yes. But after that Cuba would be able to supply the deficiency. Because American capital would infuse new life into the old industry there. It will probably tear down the old factories that have become obsolete and will build central factories where they can manufacture cheaper. It will be American capital. Instead of that American capital staying here and developing the beet sugar industry, what do you get out of it? You do

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not use enough sugar the year around that you would be benefited if you paid a cent less.

Mr. Brigham: We must reach the point where we will import no European sugar before the Cuban tariff will affect our market.

Mr. Postel: We get from our sources,—you take what is manufactured in the United States, the Sandwich islands, the Philippines and Porto Rico, we get something like one million tons out of these sources. We use something like 2,250,000 tons a year. In 1893, before the revolution broke out, when Cuban sugar was imported duty free, Cuba raised over one million tons of sugar. I think this year the output is estimated at something like 800,000. You see Europe would not make the price. The sugar trust, as a matter of fact, is stirring this matter up. It spends money like water to induce the Cubans to come here and go before congress and petition congress to lower the duties. "Here," they say, "we have got to do something for the Cubans. We went into it to the extent of perhaps $300,000,000 to free them from the Spanish. In addition to it we will kill one of our industries to make those fellows prosperous."

The sugar trust says we do not need the income from the duty; that we have so much money in the treasury that it is bursting. They say: "Why not take the duty off? Then the people of the United States will get their sugar cheaper." So soon as the duty is taken off the manufacturers will get more for their sugar. They are sending out a lot of literature, and in their own journal you can see where they give the prices for sugar during the past ten years. During the year 1893, when Cuba produced over one million tons of sugar, the sugar was brought to this country duty free, and what did granulated sugar sell for? During the month of April it sold for five and three-eighths cents per pound, and that price ran prety well through the whole season. We got this year for our sugar something like four and a half cents under the tariff. What does it show? It shows that the sugar trust will make the price, and that in case the duty is

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taken off the sugar trust can do as it pleases. It can put the money into its own pocket. The sugar trust does the buying. It can buy where it buys cheapest, and in this case Cuban sugar would be cheapest, and it can dictate the price for granulated sugar because it controls about 65 per cent. of the output.

Mr. Brigham: Is not European sugar lower?

Mr. Postel: Certainly. We really sell it lower. What did the sugar trust do? To show you that the sugar trust wants to accomplish two purposes: In the first place, it wants cheap raw sugar. It does not really care about taking the duty off refined sugar. In the month of October, when we attempted such an agitaion, they were selling sugar for three and one half cents a pound west of Omaha where it came in competition with Colorado and Nebraska beet sugar, in order to crush this bill. Where it can get the raw sugar cheap, it can afford to sell the refined sugar for what it pleases, and it will derive so much more money out of this trade that at certain points where the beet sugar enters the market, it can outsell the beet sugar. It wants the beet sugar men to go out of the business, but it is beginning to recognize that the beet sugar industry is here to stay.

Mr. McKerrow: I imagine the gentlemen here feel like myself,—that we are in the halls of congress. We are very glad to have had so good a discussion on the sugar beet question, and we are glad that Mr. Postel has had a chance to illustrate his side of the tariff question.

The next topic we shall take up this morning is upon the program as one of the afternoon papers: "Some Problems in Rural Hygiene." I take pleasure in presenting Mr. W. D. Frost, who will address you upon this subject.

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SOME PROBLEMS IN RURAL HYGIENE.

BY W. D. FROST, MADISON, WIS.

We are accustomed to think of the wonderful progress which has been made in recent times along material lines with considerable pride. The last century has been spoken of justly as the "Wonderful Century." But are we aware of the progress which has been made along hygienic lines? In the time of Columbus the average length of life was only about fifteen years. Today, even in a large city like Chicago, the average length of life has been lengthened to thirty-nine years. This is a brilliant record. And yet it must be remembered that we have only begun to realize our possibilities in this direction.

Greatest dangers have threatened the larger cities and it is here that the greatest advance has been made. In the country districts comparatively little has been done. But it would seem as if it were time for the average farmer to realize his rsponsibility and assume the burden which has been placed on his shoulders.

It should be remembered also that the death-rate does not represent the total amount of misery which the violation of the law of hygiene entails, for Martial many centuries ago said, and truly said that "Life is not to live but to be well," and a great deal of the sickness of the world must be added to a large death rate as the penalty of the ignorance and neglect of the laws of hygiene.

It is my purpose to point out to you today some of the great problems of hygiene which confront you as farmers. It is needless to add that I shall be able to discuss only a few of the many important problems connected with the subject,—a few, as it were, of the highest peaks of a great range of mountains.

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A very large part of the science of hygiene is wrapped up in the search for pure air, water and food, so that we may say that one of our chief problems is *how to obtain pure air*. Fortunately to a considerable number of the rural population and for the greater part of the year this question is solved by their very location. But, during the winter months, the problem of obtaining in the house and in the stables a sufficient supply of pure air is an important one.

Pure air,—that is, air containing a large amount of oxygen, is absolutely necessary to the maintenance of perfect health. One may as well expect to get the full energy from a steam engine when it has insufficient draft, as to expect to njoy perfect health in an imperfectly ventilated room.

Take this example of the effect of pue air on horses: Before 1836 the mortality among French cavalry horses varied fom 180 to 197 per 1,000 per annum. The enlargement of the stables and the increased allowance of air has reduced the loss to 24.2 per 1,000.

Impure air has two effects. First, if the supply of oxygen is deficient, the waste products in the body are not burned up and hence accumulate and clog the system. In other words, the incomplete oxidation interferes with the normal activities of the body. Tha vitality of the body is reduced and is therefore less able to resist disease. Bad air increases the susceptibility or predisposes towards disease. Bad air may, on the other hand, contain the exciting cause of disease, for there are certain diseases which may be considered as air borne. Of these diseases consumption, or tuberculosis of the lungs, is by far the most important. It is one of the most widely distributed of all infectious diseases. One-seventh of the death rate of the world is credited to this one cause. This means that if the annual death rate is 35,000,000, then 5,000,000 deaths would be caused by tuberculosis. At least 100,000 deaths occur each year in the United States. The world yields about four each minute.

The idea is a common one still that consumption is an hereditary disease; that it runs in families, is handed down from

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mother to child. This method is possible, but actually occurs so infrequently that it may be practically neglected. Consumption must be placed on the list of communicable diseases, that is, among those diseases which are communicated from the sick to the well.

Tuberculosis is caused by a germ which lives on the body tissue. In case of consumption it grows in the lungs, causes the destruction of the lung tissue, and this is coughed up, and with this material comes the bacteria frequently in enormous numbers, sometimes as many as 4,000,000,000 during the twenty-four hours. This sputum is frequently improperly cared for. It is allowed to dry and with dust may, and frequently does, get into the air. Since the germ of tuberculosis is not readily killed by drying, the air laden with these germs becomes extremely dangerous. There is another way in which these germs may enter the air . It has beenn found that in speaking a person gives off a very fine spray. Fine droplets of sputum in this way are shot into the air for some distance from the speaker. The distance is from a yard to a yard and a half. Within this range the danger is especially great.

It is evident, then, that a person suffering from tuberculosis is a dangerous person and a menace to the public health. Fortunately, however, it is possible by a little care to reduce the danger to a minimum.

It is not in place to speak here in detail of the methods. It will suffice to call attention to the fact that the necessary information can be readily secured, and I think it will not be out of place to call your attention to a prize essay on this subject which has been widely published, and at a price which makes it within the reach of all. I refer to the essay on "Tuberculosis, the Disease of the Masses," written by Dr. Knopf of New York.

The next most important disease is diphtheria. This disease, like tuberculosis, is a germ disease. The germs find lodgment in the throat, where they develop and form their poisons which frequently product disastrous effects. The germ is

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spread from individual to individual in much the same way that the tubercle germ is spread. The measures which should be enforced to control this disease would include the following:

1st. The examination of all suspicious cases of sore throat. By means of bacteriological examination it is possible to determine with great accuracy the exact nature of the trouble. The necessity for this procedure will be appreciated when it is known that the disease may be very slight so that all soreness of the throat disappears in a few days, and yet in such cases the bacteria which cause the disease may be present for some time, and such a person would be quite as dangerous a companion as one sick with the disease. Where medical examination of school children has been carefully carried out, a considerable number, relatively, of apparently healthy children have been found to be harboring the bacilli.

It may be well to mention in this connection, also, the fact that the bacilli frequently persist in the throats of convalescents for relatively long periods of time. In some cases the time is to be reckoned in months. There is little doubt but what patients are too frequently released from quarantine, i. e., before they cease to be dangerous.

2d. Isolation and quarantine of all cases of diphtheria. Where this has been enforced the extent of the disease has been very much lessened.

3d. Thorough disinfection of the apartments to which the patient has had access. Practically the only agent which can be relied upon for room disinfection is formaldehyde. The burning of a pinch of sulphur is of no value whatever.

4th. All persons known to have been exposed should be closely watched for symptoms of the disease. Antiseptic throat washes should be used, and, where practicable, preventive doses of anti-toxin of diphtheria should be administered.

5th. Public funerals should not be allowed in cases of diphtheria or membranous croup, which is simply another name for the same disease.

There are a considerable number of diseases which would

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come under this head of air-borne diseases, but it would be unwise to enter into greater detail here. I think enough has been said to show the fact that the matter of obtaining a pure air supply is not a simple problem. Ventilation presents certain mechanical difficulties which it will be hard to overcome. When an air has become infected with disease garms it is difficult to get rid of them, and our greatest hope lies in being able to prevent the entrance of these germs into the air rather than take them out after they have once gained entrance.

The second great problem comes in securing a pure water supply. In speaking of a pure water supply I use the word pure in its hygienic sense, meaning a water free from dangerous constituents, for a pure water, in a chemical sense, is not obtainable outside the laboratory.

The number of diseases which are traceable to our water supplies are relatively few. Typhoid fever is a water-borne disease. So, also, is Asiatic cholera, but fortunately we rarely have to deal with this disease in this country. It is quite likely that impure waters frequently cause certain digestive disturbances, which are not specific in character, but which are the source of a great deal of trouble, especially in children.

Typhoid fever, however, is the only disease that I care to discuss at this time. This disease is also a germ disease. Here the organism lives on the tissue of the intestine, producing a poison which is absorbed by the system and which is responsible for most of the symptoms of the disease. It also happens that the ulcers which are formed eat their way through the intestine, causing the gravest complications. The germ causing the disease leaves the body in the urine and dischages from the bowels of those suffering from the disease and the germs from, or with, these materials must be carried to the food or drink of the healthy. The most frequent method of introducing the germ into the intestine is through the water supply. Many localities have a case or two of the disease every year, and conditions like the following are by no means, unfortunately, unheard of: "While riding with Dr. ——, on his way to see a patient, he pointed to a farm house which

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he said had a strange history. He had practiced in the adjoining village for thirty years; the farm was occupied by tenants, who were changed every few years, and during these thirty years every family that lived on the place passed through typhoid fever." That the disease came from an infected well, there is practically no doubt. Not long ago a small town in an eastern state had a well which was used by almost the entire population. This well became infected and sixty out of eighty inhabitants had typhoid fever and ten died. A similar case has been reported from Germany. Here fifty-two persons were taken ill with typhoid fever in three weks. Later it was found that they all used water from a certain well which had become infected with the discharges of the first patient.

The fact that wells become infected with the typhoid germs is well known. The important question is how they became infected and how infection may be prevented.

Many, perhaps most, of the country wells are shallow and unfortunately are placed, not with reference to the sanitary conditions of the locality, but where they will be most convenient, or the "divining rod" may have been used and they are then placed regardless of other considerations. That infective material may pass relatively long distances through the ground water is undoubtedly true. The readiness with which it may pass depends upon the local geological conditions. In some cases it may be carried through coarse sand; in other cases through crevices or caverns in the rock. In other cases still, the upturned strata may offer a ready means of entrance to the leakage from the privy or cess-pool.

The important point to be considered in the case of every farmer who is solicitous of the health of his family is: "Is my well free from danger?" Each farm well is under slightly different conditions and the question must be concerning the individual well. The fact that a neighbor has a well which has been shown to be all right and you think your well is under the same conditions really gives little warrant to the conclusion. It is possible to tell with certainty whether there is a connection with the privy vaults and the well by means

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of chemical tests. If a connection exists, salt placed in the vault soon appears in the well, which can be detected by chemical means.

I think it is very important that it be understood that the fact that one has escaped the fever for a number of years gives no assurance for the future, unless it is known that the well is effectively protected from infection. For it may be that there has been no opportunity for infection, but this may come any day. A friend, or stranger, may visit you for only a part of the day, use your privy and infect your well. It is not necessary that he be sick. He may simply have what he considers a slight bowel trouble, a case of ambulating typhoid. Or he may be a convalescent. It has been shown that the typhoid germ persists in the bladder of convalescents for some time. Cases of this kind, where working men employed at works on river banks have been the cause of quite serious epidemics are on record. Notably, a case which was the cause of an outbreak at Lowell, Mass.

It seems of considerable importance that the covers of wells be water tight. In one or two cases on record the water of a well has become infected by the tramping of infected soil on to a loosely boarded cover. The soil was infected by the use of night soil as a fertilizer.

The problem of the disposal of wastes is also of very great importance. In fact, unless one is absolutely certain of his well, extreme care in the disposal of excreta is absolutely necessary to insure freedom from disease. Fortunately, very reliable methods have been worked out which are entirely within the reach of the farmer.

For the excreta the dry earth closet answers all of the requirements. It is only necessary that the ordinary privy vault be replaced by a wated-tight receptacle. This may be simply a slop pail. The only other requirement is a supply of dry earth or ashes. Every time the privy is used some of this dry earth is sprinkled over the fresh excrement. This gives opportunity for what is known as the putrefactive nitrifying bacteria to do their work. The material should be re-

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moved and piled some distance from the house, as in the corner of the garden, covered with a few inches of earth. In a short time, varying from a few days to a few weeks, depending largely upon the temperature, this material entirely disappears. This method has been thoroughly tried, is safe, economical and entirely unobjectionable.

The comparatively few farm houses which are fitted with running water may dispose of their sewage by either the use of the septic tank or subsoil drainage.

May I be permitted to put in here a word of protest against the use of the manure heap as a place of deposit of human excreta. The owners of the farm should never dispose of their own dejecta in this way or permit their hired help to do so.

One other problem deserves brief mention and that is the problem of insects. For a good many years it has been known that bed-bugs may carry the tubercle germ. More recently it has been shown that fleas are instrumental in the spread of bubonic plague. A few years ago it was definitely proved that certain kinds of mosquitoes were instrumental in the spread of malaria. In fact, at the present time we know of no other way in which the disease may be spread. During the last year it has been proved beyond doubt that yellow fever is transmitted by means of these same pests.

During the Spanish-American war there was, as you know, a great deal of typhoid fever in the American camps. In a number of cases it has been shown that the germs were carried from the excreta to the food by means of flies. And it is entirely possible that these little pests are the means of spreading typhoid fever to a much larger extent than has been realized in the past.

It may be a difficult, or well-nigh impossible, task to keep the flies from the farm, but it is entirely within the range of possibilities to keep them from our food supplies, and neglect to provide screens for the house windows and doors is not only in bad taste, but really invites danger.

I have attempted to call your attention to some of the more important problems in connection with rural hygiene with the idea of exciting your interest in the general subject. If you de-

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sire to undertake reforms and improve your condition, there is sufficient literature which most of you can command that will give not only the general principles involved, but the necessary details.

DISCUSSION.

Mr. Brigham: Mr. Frost, you mentioned some methods of disposing of waste water.

Mr. Frost: One was the septic tank and the other method was sub-soil drainage. I did not go into details because I did not think it was necessary among you here. A septic tank may be used or simply a water-tight pail into which the sewage is allowed to run in at the top and out at the bottom. It soon becomes covered with a skum and there is a deposit at the bottom, and the bacteria are then enabled to make way with the offensive material. This is the plan which is now being introduced into the cities.

The other method is to run titles to carry off the waste a foot and a half under the surface, giving an opportunity for the nitrifying bacteria to work.

Mr. True: And the second method you refer to, is that available to all soils or would it only be available in those that are especially porous?

Mr. Frost: It must be in a porous soil.

Mr. Brigham: Does it not infect the soil?

Mr. Frost: It is spread out in a way that gives the nitrifying bacteria a chance to work and destroy the dangerous bacteria.

Mr. McKerrow: If there are no more questions, we will now close this session.

Adjourned to 2:00 P. M.

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Afternoon Session, February 5th.

Mr. McKerrow in the chair.

The Chairman: As announced this morning, the first topic to be taken up this afternoon will be "Culture and Curing of Tobacco" which will be presented to you by Mr. A. L. Fisher, of Janesville. It gives me pleasure to introduce to you Mr. Fisher.

THE CULTURE AND CURING OF TOBACCO.

To successfully raise and cure cigar leaf tobacco in the state of Wisconsin requires great care and involves constant attention to every detail of management at the different stages. The importance of attention to these details is of greater consequence in this crop than in almost any other. To successfully grow the crop in the first place, is a difficult matter; to cure it properly is of equal importance. A thorough knowledge of every phase of culture and curing is essential to success.

The present status of the tobacco industry of our state represents immense financial interests. Millions are invested in tobacco lands, barns, culture, implements and warehouses. The first tobacco grown in our state was raised in Walworth county in 1847. At the present time, eighteen counties are credited with more or less acreage, and it is safe to say that over thirty thousand acres or about forty million pounds were grown in the state in 1900. Wisconsin is recognized as the greatest producer of cigar leaf. Our acreage is annually increasing. This year, all things concurring, the acreage will be increased one-fourth, and from present indications tobacco will be grown as far north and west as Chippewa county.

The planters of our state realize annually about three million dollars for the crop in its raw state. The tobacco merchants pay for handling and preparing this crop for the manufacturer, at least one million dollars annually. Certainly the investment in the Wisconsin tobacco crop is sufficiently large to raise it to the dignity of one of the most important of Wisconsin's industries. As such, it is well worthy of the most profound attention on the part of planters, agriculturists, scientists, dealers,

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A TOBACCO FIELD READY FOR HARVEST.

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manufacturers, and legislators. All evidence and experience demonstrate that only the best quality pays a real profit. With the increasing competition of foreign leaf in our home market, and the probability of the annexation of Cuba at no distant day, it is evident that the supremacy of Wisconsin tobacco will depend in great measure upon quality. Present profits and future proseprity will be governed by the quality of the leaf. To this end our State Experimental Station and Scientist should be urged and encouraged to co-operate more earnestly with planters.

SEED BED.

No step in the culture of tobacco is more important than proper care in the preparation and sowing of the seed bed. This work cannot be neglected without running the risk of making a partial or total failure of the crop. To have plenty of good, strong, healthy plants is the surest foundation for a good crop, provided they are from seed true to the desired standard. The land selected should have a slightly southern exposure to get the full benefit of the warm rays of the sun in early spring, and should have a wind protection on the north and west side. The soil should be a rich, black, sandy loam. Black is preferable, because it absorbs to a greater degree the rays of the sun and brings forward the plants several days earlier. The ground for the seed bed should have a heavy dressing of well rotted horse manure and be plowed in the fall. In the spring the ground should receive a top dressing of very fine, rich manure, which should be pulverized in as soon as the ground will do the work, without packing. At this time the seed bed should be made very fine and friable to the depth of three or four inches. When in nice order, mark off the bed, six feet wide, and it is ready to be seeded. It is usual to sow one tablespoonful of seed to the square rod. More seed makes spindling plants. Some of the most successful growers sprout the seed before sowing. This is advisable provided the bed is covered and carefully cared for. In sprouting seed, it is a good plan to sprinkle thinly upon a dampened cloth, and cover it

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with a woolen cloth. The two should then be rolled together, the woolen cloth on the outside. This roll should be kept in a warm place, and dipped in tepid water every day. In about one week the germs will appear, at which time the seed should be sown. Prudence will suggest the preparation of several parcels of seed at intervals of several days. To insure even seeding, the best way is to mix the seed with corn or cotton seed meal, as it is easier to handle, and the meal can be seen upon the ground, and a more perfect sowing made. Just before sowing the seed, rake the bed and be sure that the ground is very fine and well settled. After sowing the seed, the best plan is to run a heavy hand roller over the bed or plank the bed. Firming the soil is very essential to success, as the compact surface retains the moisture in the ground. It is always advisable to sprinkle the bed thoroughly with warm water immediately after rolling or planking. The following recipe is indispensable and should be applied once a week until the plants thoroughly cover the ground: Three bushels of poultry droppings, placed in a large barrel, and filled with soft water. After one week's fermentation the liquid is ready to dilute with warm water in the proportion of one of liquid to ten of water. This will stimulate the plants without delay, and cause good, healthy development.

COVERING PLANT BEDS.

Nothing that has ever been invented or devised has effected so much, for the grower, at such a small cost as a canvass covering for the seed bed. It is a protection against the ravages of the flee beetle; it hastens the growth of the plant by keeping the bed moist and warm. The heat absorbed by the soil, from the sun's rays during the day, is radiated at night, and is reflected by the canvas to the soil again, and thus a warm temperature is preserved. This is highly promotive of plant growth.

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CARE OF PLANT BED.

Have an eye to the plant bed as the whole year's crop depends upon good healthy plants. After the plants have grown sufficiently to cover the ground nicely it is advisable to remove the covering during the middle of the day. This hardening process is absolutely necessary to give the plants sufficient strength of constitution to withstand transplanting in the open field, and to make a vigorous start when transplanted. The plant bed must be kept clean and well watered. The whole aim of the grower should be to raise early, strong, stocky plants. It is a good plan to have several beds planted at intervals of a few days. This insures plenty of plants and meets the possibilities of the season.

RAISING THE BEST TOBACCO SEED.

To raise good tobacco requires, in the first place, good seed. The best way to secure a perfect leaf is to grow the seed plants in an isolated place, removed at least eighty rods from any other field of tobacco. There should be several plants near each other so that the pollen may be interchanged between the different plants. In selecting plants for seed, the earliest, healthiest, and most vigorous growers should be selected. The plants should be as nearly perfect as possible, the stock firm, and the leaves near together on the stock. The leaves should be perfect in size, shape and texture, with small mid-ribs and veins. When the plant blossoms, carefully and frequently remove all suckers and side shoots, leaving only the large clusters of flowers at the top to produce seed. Also remove two or three of the upper leaves to prevent the plant from becoming top-heavy. When it has developed a good head and the early seed pods begin to turn down, pinch off all remaining seed blossoms and continue to do so if any appear later on. Seed plants treated in this way will produce a quality of seed which will be plump and healthy. The great object is to force all of the strength of the plant into the production of a limited number of seed heads, and great care should be taken to keep the plant growing vig-

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orously until this is attained. When the seed is ripe, which is shown by the seed pods turning brown, cut off the head, with about a foot of the stalk attached, and hang in a warm, dry place where the mice cannot disturb it.

SELECTION OF SEED.

Wisconsin growers should pay more attention to securing pure seed, as it is evident that a large proportion of the acreage annually grown in our state is deteriorating in quality from cross-fertilization. In some neighborhoods we find seed leaf, hybrid, and Havana all growing in the same field, and we find farmers continually selecting the largest and best plants out of these fields for seed. As a direct result of this practice, we find in many localities the quality is fast approaching that of seed leaf. It is true that soil and climate gradually change the size and fragrance of the leaf in the course of a long term of years, and it is quite evident, if the farmers would import seed from the best Vuelta districts of Cuba and grow it in secluded places for four years in succession, before saving seed for crop purposes, and then grow enough of this seed to last at least ten years, they would then be prepared to raise a uniform article of cigar leaf that would contain a larger percentage of desirable wrappers than is now produced. There is an opinion held by some careful growers that it would be wise to occasionally get seed from some of the best growers in Connecticut. This question of selecting and producing seed, suitable for our soil and climate, is a matter which should be considered and fostered by our State Experimental Station, and we believe that the state should make an adequate appropriation for the purpose above specified.

Inasmuch as the state of Wisconsin is now recognized as preeminently the cigar leaf producing state of the Union, it is reasonable, at least, to ask at the hands of our legislators sufficient recognition and support, to enable the State Experimental Station to co-operate most heartily with the planters, and assist them in every way possible to improve the quality and standard of this product.

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PREPARATION OF SOIL.

As a rule fall plowing is essential to the best results. The most successful growers in our state plow under from thirty to forty loads of well rotted stable manure to the acre late in the fall. Fall plowing should be gone over with the disc pulverizer once a week after the first of May until the plants are ready to transplant, as it is quite necessary to have the surface thoroughly pulverized and worked down in fine condition prior to planting. The surface of every tobacco field should be pulverized, dragged and cross-dragged, and rolled or planked ahead of the planter. The very best results can only be obtained by a thorough preparation of the soil.

TRANSPLANTING.

The field having been properly prepared to receive the plants, the work of transplanting requires the utmost care. Carelessness and neglect here is certain to tell seriously on the result of of the crop. Great care should be exercised in the drawing of the plants from the seed bed. Before removing plants, the bed should be thoroughly wet the night previous, unless this has just been done by a good rain. The most careful hands should be employed in removing plants from the bed. Plants should be drawn one at a time, and should be removed so as not to injure the rootlets.

BARNYARD CISTERNS.

Wisconsin tobacco growers should provide barnyard cisterns to catch and hold the leach of the manure pile, which is continually going on during the early part of the season. It is reasonable to say that one-fourth of the strength of our barnyard fertilizer is leached out and lost in the early spring. This means an annual loss of about three hundred thousand dollars. If the planters would utilize this annual waste, and use the liquid fertilizer thus saved to water out the plants when transplanting, the result would be most gratifying and profitable, as this liquid fertilizer could be evenly distributed by the use

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of our transplanters, and the liquid applied where the young plant could receive nourishment and strength, in sufficient quantities to push the crop to quick maturity. As a direct result of this supply of plant food the tobacco plants would start with an even growth, ripen with uniform finish, with at least one-fourth more pounds of good mellow ripe tobacco per acre. It logically follows that if one-fourth more pounds of good desirable leaf can thus be produced, the grower has gained at least twenty-five dollars per acre. If the majority of the growers in the state would avail themselves of this single feature they would gain annually at least one-half million dollars. This liquid fertilizer, if saved and properly applied, would place the Wisconsin farmer in the lead of all cigar leaf producing states. It would have the same effect on plant growth that an abundance of sweet milk has on young animal growth. The young plants, when transplanted, would throw out their fibrous roots and feed upon this liquid fertilizer, until the tap root had reached the coarser manure, and as a result plant food would be supplied. There would be a vigorous growth, an early maturity, and an enhanced value of the annual product.

CULTIVATION.

An abundance of fertilizer does not remove the necessity of thorough cultivation. Cultivation should begin early, to preserve all the soil moisture possible. It should be shallow and level. The tobacco especially needs thorough cultivation. Care should be taken as the crop advances not to injure the fibrous roots. It is the glory of the thrifty tobacco planter not to allow a weed to disgrace his tobacco field. When land has been thoroughly plowed in the fall, and pulverized weekly from the first week in May until setting time, the weeds are well nigh eliminated, and in shallow cultivation weeds can be kept down until the plants so shade the ground in its later stages of growth that weeds cannot flourish.

Stir the soil as soon as practicable after rains; this prevents

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evaporation and lets in the warm rays of sun light to the roots of the growing plant.

TOPPING TOBACCO.

There is a diversity of opinion and practice as to when and how low to top. Some begin as soon as the majority of the plants in the field have budded. Others make it a rule to wait until the majority of the plants have blossomed. Those who advocate low topping claim they get uniform leaves thereby. Every grower must decide from the condition of the growing crop how high or low to top. As a rule it is advisable to top the plant before it has blossomed, and it would add much to the value of our Wisconsin product if the farmers would break off the worthless ground leaves at the same time, thus throwing the entire strength of the soil and plant into the better leaves.

SUCKERING.

The natural inclination of the plant to propagate itself through the formation of the seed, is intercepted by topping, but the plant at once attempts to repair the damage. In one week from topping, suckers begin to appear, and when three or four inches long, they should be pinches off. As in topping, this must be done with thumb and finger, to prevent too copious exudation of the sap. Cigar leaf tobacco generally requires suckering but twice. At first, half way down, and the second time clear from top to bottom. In suckering as in topping, the utmost care must be taken not to injure the leaf.

RIPENING.

In the course of about three weeks after topping, plants will begin to ripen. This may be known by the change in the color of the leaf. It will look spotted, with spots of a lighter, yellowish green. When fully ripe the leaf may be folded and considerably pressed without breaking. It is well to let the crop stand until well ripened. If tobacco is harvested before it is ripe, it is more liable to pole-sweat and damage. Tobacco

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when cut before fully ripe, may look nice before going through the sweat, but when it comes out it is tender and will make but few wrappers, to say nothing of the greater liability to damage. As a general rule, green cut tobacco cures dark, is not smooth and fine in texture, and will not bring as high price as ripe mellow leaf.

HARVESTING.

Harvesting tobacco in Wisconsin usually begins about the middle of August and continues as the plants arrive at maturity until the middle or 20th of September. Plants grown upon warm, sandy, loam soil mature from one to two weeks earlier than when upon the heavier soils. Plants should not be cut down when there is dew on the leaves, nor later than three o'clock in the afternoon. Do not leave any out over night if it can possibly be avoided. On the other hand take care that too much is not cut down in the middle of the day when the sun is so hot as to burn the leaves. Plants should be put in the shed as soon after cutting as can be done without breaking the leaves. It must be wilted somewhat to be handled readily. If wilted too much the leaves will stick together and endanger the crop with shed-burn. Tobacco crops that are hung in the shed, as soon as the plants can be handled without breaking, cure more uniformly in the shed, and present a much more inviting appearance to the buyer in the fall of the year. Farmers should remember that tobacco hanging in the shed with the leaves all curled never makes a favorable impression on the dealer.

HANGING IN SHED.

The usual way in Wisconsin is to string from five to six plants on a lath. The laths can then be quickly hung in a barn, leaving space enough between plants for air to circulate. The larger the plants the more space necessary.

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CURING.

The method of curing practiced in Wisconsin is entirely air-curing. It is accomplished by regulating the air and moisture, by opening or closing the doors in the tobacco barn. The Wisconsin Experimental Station favors artificial control of temperature and humidity, but has not experimented along this line sufficiently to give accurate instructions or practical advice. The system now in vogue has been practiced ever since the introduction of tobacco in our state. It has been improved in many instances by greater care in the construction of barns, but is as yet in a crude and imperfect method, and requires vigilant attention to details and a nice perception of alterations of temperature and moisture to properly carry out, yet so skillful have many of our growers become that a reasonable good cure is effected in many instances.

The first point to avoid in Wisconsin is the too rapid drying of the leaf. Drying is not curing, and the terms are in no way synonymous. The change, color, and condition in the leaf is largely due to a process of fermentation which takes place in the hanging tobacco, and for which a certain amount of moisture in the leaf is necessary. If the leaf is dried too rapidly this fermentation is either prevented altogether or checked to some extent, thereby effecting the results disastrously. As far as possible, the air in the shed during the whole curing process should be kept in such a condition that the tobacco will never become quite dry and brittle. It should never crumble when handled. To this end after the first two weeks following the hanging the shed should be kept tightly closed during the dry weather, and if opened it should be at night, or for a while upon dark and misty days. If the buildings are kept closed the great amount of moisture evaporated from the tobacco would keep the air sufficiently damp, even in dry weather.

The second principal is to keep the air in the shed from excessive dampness, which with heat, causes a destructive fermentation, or rotting, which is entirely different from the fermentation of the curing process. For this reason the building

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should be kept well opened and ventilated the first two weeks after hanging that the fresh current of air may carry off the large amount of water evaporating from the tobacco, and also check any tendency to excessive heating. During the whole time of curing, after any protracted time of damp, muggy weather, the shed should be opened until the tobacco is thoroughly ventilated and partly dried off. To carry out both of these principles the sheds should be so constructed as to permit of its being tightly closed and also of its being opened and thoroughly ventilated. Light should be carefully excluded during the curing process, especially in its later stages, as it is found that strong light has an injurious effect upon the color of the leaf. Even under the most favorable conditions a successful cure depends largely upon good management. If the tobacco is cured in a current of air, care being taken not to drive the moisture out too rapidly, a change takes place in the interior of the leaf, which changes the color from green to brown. If hung too closely, so as to prevent the free access of air, the color still changes from green to brown by a different process of fermentation. The leaf loses its tenacity and elasticity and becomes subject to pole-burn and is more or less spoiled by rot. The time required for curing tobacco varies with the season. Some seasons it progresses rapidly. As a rule, quick curing is the best. It can only be accomplished when all the conditions are favorable. Much depends upon the temperature and moisture of the outside atmosphere.

Prof. E. S. Goff, of the Wisconsin Experimental Station, has shown that our Wisconsin tobacco loses about 70 per cent. of its weight during the curing process. The rate at which the water passes off gradually increases from the time the leaves are wilted until they assume a brown color. The water appears to be set free by the leaf rather than extracted from them by drying. The changes in the color of tobacco leaves during the curing process are not the result of drying, but of certain changes within the leaves themselves. Ripe tobacco yields a lighter color of cured leaf than that which is less mature. Several years' work at the Wisconsin Experimental Station, by

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Prof. Goff, have brought out the following valuable points: Moist air is lighter than dryer air at a given temperature, and hence tends to rise. Comparatively dry air entering the curing house near the ground and coming in contact with tobacco which is giving off moisture, as it absorbs this water will gradually rise through the building, absorbing more and more moisture in its course until it reaches the roof.

It is important, therefore, not only that the curing house shall have ventilators through the roof, but that these be made so that they can be opened and closed at will, because these furnish an efficient means for controlling the humidity, provided the weather boarding of the building is tight as it should be. In ordinary weather it is better to use only the ventilating doors near the ground and the roof ventilators, leaving the side doors closed, except as an emergency seems to require special ventilation. Every curing house should be raised at least two feet from the ground, and have two-foot horizontal ventilators below the sill, running the entire length of both sides. The control may be mainly exercised by the roof ventilators, since by opening or closing these, more or less, the air as it rises between the hanging tobacco may be compelled to rise more or less rapidly, as desirable. But it should be remembered that when the external air is very moist, as in rainy weather, this upward current of air will largely cease because the absorption of water will be greatly checked. In curing tobacco in Wisconsin there are two great dangers to be avoided: *Pole-burn and drying.*

To avoid pole-burn it is absolutely necessary to get rid of excessive warmth and moisture during the early stages of the curing process. This can only be done by a complete system of ventilation. For this purpose two-foot horizontal ventilators should be provided near the ground, eight-inch horizontal ventilators for each tier of tobacco, and one more ventilator along the ridge pole. The ventilators on the sides of the curing house should open horizontally at intervals of four feet and run the full length of the building. With these all open the air can enter not only near the ground, but also below each tier of tobacco. Free ventilation near the roof is absolutely essential to allow the escape of warm, moist air.

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The second great danger is the drying process. This is becoming more alarming every year in Wisconsin, and was exceedingly bad during the curing season of 1901, in which the conditions of the atmosphere were so excessively dry that the tobacco hung in the sheds from the first of September until the 20th of October without enough moisture to facilitate the curing process.

It is possible to construct a curing house so as to guard against the whims of the weather, and it would add much to the value of our Wisconsin product if the tobacco sheds were tightly sheeted up on the sides and ends and provided with shingle roofs. Then the buildings, if properly ventilated, could be manipulated so as to exclude the dry atmosphere and retain the moist air for a longer period of time.

A MODEL CURING TOBACCO HOUSE.

A model curing tobacco shed should be located close to the well and wind mill. The mill should contain a water tank elevated twenty-five feet from the ground. The curing house should be provided with galvanized cylindrical troughs, three inches in diameter, fastened to the sides and ends of the curing house. These troughs should be two feet below the eaves, and be perforated on the outside and so adjusted that they could be fed with water from the tank. Then during the excessive dry weather the planter could provide a moist atmosphere day or night and thus expedite and assist the curing of the crop. By opening the horizontal ventilators in the curing house and turning on the water from the windmill tank, the pressure from which would force the water through the cylindrical troughs and produce a fine spray on all sides of the building. This spray could be utilized as the operator might see fit, to assist the curing, which should be continually going on without interruption of excessive dry atmosphere. The operator should also attach a hose to the tank in the mindmill and spray the ground underneath the tobacco, which would assist materially in the curing process going on in the shed, and this would also furnish an efficient means for spraying the tobacco plants,

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which could be located on the south side of the tobacco shed, all of which would prove of material usefulness.

By this artificial supply of moisture we believe it would be possible for many of the tobacco planters in Rock and Dane county to cure their tobacco as expeditiously and as effectually as is done in the famous Connecticut districts and in the Kickapoo valley of Wisconsin, where the growers are favored with a fog and a moist atmosphere during September and October.

This theory may seem visionary and impracticable, but we believe many of the tobacco growers in our state can afford to tear down their old sheds and build new curing houses, located so as to avail themselves of windmill water tanks and artificial spray, as indicated above. It is an admitted fact that a large proportion of the tobacco sheds in Wisconsin admit too much sunlight and drying atmosphere. This is detrimental from a scientific standpoint to the effectual curing of tobacco, and the sooner the Wisconsin planter realizes the difference between drying tobacco and curing tobacco, the better for him from a financial standpoint.

In order to effectually raise the standard and enhance the value of our Wisconsin product more attention must be paid to scientific principles in curing. It is reasonable to believe that the day is not far distant when the majority of the tobacco growers of Wisconsin will pay more attention to the experiments which are being conducted in the cigar leaf producing states of the union, and it is to be hoped that through the medium of the Tobacco Growers' and Dealers' Association of the state of Wisconsin lasting good may be accomplished by cooperating with our Agricultural Experimental Station, and disseminating circulars of useful knowledge pertaining to the growing and curing of tobacco. We believe that the future watchword of the majority of the tobacco growers will be: "Pure seed and a higher grade of binders and wrappers for the market."

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DISCUSSION.

The Chairman: Let us have a free discussion of this matter, either on the points which Mr. Fisher has taken up or upon any he has not taken up, if there are any such.

Question: Do you think there is danger of leaving it over night in piles?

Mr. Fisher: Yes, great danger.

Mr. Everett: In curing do you mean to spray the tobacco itself?

Mr. Fisher: No, sir.

Mr. Everett: The perforation is on the outside?

Mr. Fisher: Spray the wall,—throw it off in the air.

Mr. Everett: What is being done in Wisconsin in the matter of raisnig tobacco under cover?

Mr. Fisher: This is a matter that will be taken up on a small scale this year in the Kickapoo Valley. There is a large stock company formed to raise about 300 acres.

Mr. Everett: Do they not grow Sumatra leaf in Connecticut?

Mr. Fisher: A portion of it is Sumatra.

Mr. Everett: Do you believe that it would be profitable and practicable for the Wisconsin farmer to attempt to protect the binder crop?

Mr. Fisher: To a certain extent. I do not believe in advocating anything which is not really practical. In my judgment, however, there are farms in the Kickapoo valley where they could raise a half more tobacco under cover and get as good results as they do in Connecticut.

Question: Did you say that moist atmosphere at the same temperature was equal to a dry atmosphere?

Mr. Fisher: At a certain temperature, not at the same temperature.

Question: Do any of our Wisconsin growers strip the leaf from the stalk in the field?

Mr. Fisher: Not that I am aware of. That is practiced in the east, but not in Wisconsin.

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Mr. Everett: I want Mr. Fisher's judgment upon the matter of a farmer handling and curing his own tobacco, whether it is profitable for him to do it?

Mr. Fisher: As long as the grower is able to get from eight to twelve cents a pound for his tobacco, he better sell it.

Discussion closed.

TELEPHONES IN FARM HOMES.

BY GEO. WYLIE, LEEDS.

The telephone is a greater necessity to the farmer on the farm than it is to the business man in the city. In the city distances are short and help of a certain kind is plenty, while in the country distances are great and help of every kind grows scarcer every year. The farmer can, if he will, avail himself of this labor-saving appliance much easier and at less expense than the business man in the city, and much easier than the farmer himself imagines, unless he has investigated the subject in all its bearings.

Telephone lines can be, and are being, built by farmers on what might be termed the co-operative plan; but a co-operative telephone line is an entirely different proposition from a co-operative creamery or other co-operative form institutions, in that as soon as a creamery is built trouble may begin. It must be run. While, with a telephone line, when the line is built, trouble, if there is any, ends. It practically runs itself.

I would not advise the formation of any large companies of farmers for this purpose. A company of three or four farmers and from that up to eight or ten is enough. Where more than this number wish to join the company, two or more companies better be formed and the lines made interchangeable. Our line is interchangeable with two other companies and we have no difficulty, for the reason that the others want the use of our line just as much as we want the use of theirs.

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In the organization of a farmers' telephone company, no two sets of men will go at it in just the same way, and it is not necessary that they should. Our company was organized by five men getting together and agreeing to build ten miles of line. We estimated the cost and divided it into shares. We drew up certain rules governing the operation of the company, elected a president, secretary and treasurer, paid in our capital stock and built the line.

After organizing the company, unless you get incorporated, get a permit from the supervisors of the town to run your line on the highways over which you wish to build. Also get permission from the owners of the adjoining lands to set poles in front of their property. The law requires that the poles be set within four feet of the fence. This does not necessarily mean that the poles be set four feet from the fence. Our experience is that most fences encroach on the highway more or less, and if poles are set within a foot or two of the fence they are more out of the way, and you will, as a rule, come nearer complying with the law than if you set the poles four feet from the fence.

The poles should be set as near in line as possible. If not set in line, the wire gets slack in a short time. The law requires the wire to be not less than 14 feet from the ground and at road crossings 22 feet from the ground. Corner poles should be well guyed or braced. All poles should be firmly set and lightning rods of wire should be placed on every tenth pole, or oftener. Well seasoned white or burr oak poles will last nearly as long as cedar. No pole should be set that is smaller than six inches in diameter at the surface, after being set three feet in the ground.

The following figures will be found approximately correct as to cost per mile of finished line:

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Cost per Mile.

White or burr oak poles, 25 cts. each, 32 to the mile	$8.00
Digging holes and setting poles, 10 cts. each	3.20
260 lbs. No. 10 wire, at $3 per 100 lbs.	7.80
32 porcelain insulators at 1 ct. each	.32
Stringing and fastening wire to poles	2.00
Total cost, one mile	$21.32

If the work is done by the farmers themselves, as it usually is, deduct $5.20 for digging holes and setting poles and stringing wire, leaving $16.12, the actual cost outlay for one mile. Or, if the farmers can furnish poles suitable, deduct $8.00, leaving the cash outlay for one mile of line, $8.12. If cedar poles are used, add 25 cents per pole additional, making the total cost of a mile with cedar poles and No. 10 wire, $29.32. Something might be saved on the above figures by using lighter wire. If No. 12 wire is used, it will require 175 pounds per mile, at $3.10 per 100 pounds, making $5.43 per mile, or a saving of $2.37 per mile over the No. 10 wire. If No. 14 wire is used (and many do use it), it will require 103 pounds per mile at $3.20 per 100 pounds, making the cost for a mile, $3.30, or $4.50 per mile less than No. 10. Then why use No. 10? Because it is less liable to be affected by weather conditions, it does not get broken so easily, and, they tell us, the smaller the wire the greater the resistance. In other words, you can talk farther and plainer over No. 10 than you can over No. 12 or No. 14.

The above figures are for a single wire or ground line.

When it comes to a question of 'phones, get the best on the market. A cheap 'phone may do where only two or three wish to use a line, but for a farmers' circuit with 18 or 20 'phones, the best is none too good. Then, too, if you have connection with an adjoining toll line, you should have a 'phone strong enough to carry you 25 or 30 miles with ease. With a single wire, good ground connections are of the first importance.

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Ground wires must be got down to damp earth, down so deep that they will not dry out in summer or freeze out in winter. Gravel or sand makes poor ground connections. A good well is the best possible place to terminate a ground wire. A cistern is no better ground connection than a pitcher of water would be.

There appears to be a prevalent idea among farmers that the construction and installation of a telephone line requires a marked degree of skill and experience. This is a mistake. A fair degree of common business sense is all that is required.

In conclusion, I wish to emphasize the fact that it is as a business proposition that the telephone stands out as a necessity on the farm. The shipper makes use of the line in buying stock; the dealer in agricultural implements, the grain buyer, the lumber dealer, the doctor, the merchant and everyone else in business of any kind, all want connection with the farmer's line; and the farmer, as he hangs up the receiver, begins to realize as he never realized before, the importance of being a farmer with a telephone in the house.

DISCUSSION.

Mr. Everett: Where do you get cedar posts for 50 cents?

Mr. Wylie: We have a carload at our station just delivered at that price.

Mr. Everett: How long are they?

Mr. Wylie: Eighteen feet.

Mr. Hubbard: You said in your paper that eighteen or twenty instruments were on one line? A. Yes.

Mr. Hubbard: Did you not find that pretty nearly impracticable? The whole of the eighteen on the line would be listening to the one talking. The rest all listening would pretty nearly break the connection.

Mr. Wylie: We did not have much trouble. When we get a new man on the line he bothers for a week or two. It gets to be an old story. Fifteen is about the right number. When

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a line has twenty or thereabouts, the best way is to put in a switch cutting the line in two.

Mr. McKerrow: How about two stock buyers,—does not one listen?

Mr. Wylie: They can. We have access to four different stock buyers on our line.

Mr. Bird: Would it not be well to hear what the stock buyer had to say about the stock? Would not they get better prices?

Mr. Wylie: They do on our line.

Mr. Hubbard: How about the women folks visiting?

Mr. Wylie: Let them visit; that is what the 'phone is for. The telephone is no exclusive thing for the men folks. Let the people visit if they want to. I would not be without my telephone for double the amount it costs me.

Mr. Hubbard: I want to corroborate what the gentleman has said. It saves a great deal of trouble carrying the family to visit the neighbors. They can visit over the telephone.

Mr. Ames: How long will those poles of white or burr oak last?

Mr. Wylie: If they are well seasoned they will last as long as a cedar pole,—or nearly as long.

Mr. Hubbard: They will last longer than those cedar hop poles you are using.

Mr. Toole: Would you set them with the bark on?

Mr. Wylie: We always peel them at the ground anyway. We do not take the rest of the bark off.

Mr. Faville: Where is your standard connection? Do you connect through some central station? Where do you call for the "hello girl"?

Mr. Wylie: We do not have any "hello girl."

Mr. Faville: Do you make your own connection?

Mr. Wylie: It is in circuits. We run about fifteen or twenty phones and cut off and put in a switch, and then run fifteen or twenty more. As the system grows, perhaps there will have to be a central and a "hello girl," as you say. So far we have not needed one.

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Mr. Faville: How do you call up a neighbor?

Mr. Wylie: Each man has his own ring.

Mr. Faville: You do the ringing yourselves? A. Yes.

Mr. Burns: How do you get through the switch?

Mr. Wylie: It is usually at some place where there is always someone to answer. Eventually we may have to have a central and put in a switch board and pay someone for attending to it. We have over 100 phone on the system, but we have not got to that yet.

Mr. Sullivan: What is the expense of sustaining the line after it is once built?

Mr. Wylie: It is very little. With good poles and good wire the only damage is from lightning splintering the poles.

Question: Do the wires occasionally break in the winter?

Mr. Wylie: Not if properly strung. If you draw a wire too tight when you put it up, when the severe cold comes it will sometimes draw up too tight and break.

Mr. Faville: Do you have to buy your own phones? A. Yes.

Mr. Faville: How much do they cost?

Mr. Wylie: About $14.25, I think. This is in addition to stringing and poles. But that instrument is yours.

Gov. Hoard: If you have fifteen people on a line, what is your system of rings,—one ring for the first person and fifteen for the fifteenth?

Mr. Wylie: We have no combination of over four rings. We have first, Governor, one long ring. The next would be a long ring and a short ring, or short and long. You can get such combinations that no man will have to ring more than four times for any other man on the line.

Mr. Hubbard: Do you connect so that you can buy or sell any product that you raise on the farm?

Mr. Wylie: We connect with every business establishment in two different villages.

Gov. Hoard: You call up central in the village and ask to be connected with such and such a person.

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Mr. Wylie: We have our circuit and we connect with central, too. We have a central that connects with Madison.

Mr. Hubbard: They have an exchange in the village?

Mr. Wylie: Only the central of the Madison & Portage Telephone company. You want to get this idea of exchanges out of your head. You do not need any exchange.

Gov. Hoard: But if you went into a town where they did have exchanges, you would call up central and be connected.

Mr. Wylie: You could.

Mr. Welsh: Mr. Wylie's line can reach every phone in this city.

Mr. Hubbard: What are your rates?

Mr. Wylie: We do not charge anything for men on the line. We do for outsiders.

Mr. Hubbard: How do you collect it?

Mr. Wylie: We collect when they send the message. Each man has a few slips that are left with him, and we do not lose anything in that way.

Mr. Hubbard: Each man that has an instrument is a treasurer? A. Yes; until the first of each month.

Mr. Utter: Have you stated the amount of rental that you charge?

Mr. Wylie: Well, they buy the phones and we charge six dollars a year for the use of the line.

Mr. Utter: Supposing I wanted to telephone, what would it cost?

Mr. Wylie: Any point on our line would be fifteen cents. Our line is a feeder for this Madison and Portage line, and they give us the calls right over their line, because they may get any message that may come over our line.

Mr. Hubbard: Supposing I want to telephone you, how do I know where to find you? Central does not know anything about you.

Mr. Wylie: Oh, yes. Tell them you want Morrisonville, and tell central there you want Wylie, and you will get him. The telephone is an institution which no set of farmers in any neighborhood can afford to do without. There is no neces-

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sity for waiting for some incorporated company to build you a line. Just get together, a few of you, and build your own line. Pretty soon you will have the whole town covered with lines.

Mr. Toole: Do you have a manager?

Mr. Wylie: It seems as if we all take charge of the managing. We have a president, secretary and treasurer, but the one nearest to the place where any trouble occurs is the one who looks after it. We have very little trouble. The only trouble has been with ground wires freezing or drying up or something of that kind. It must be grounded clear down below the frost in the moist ground to work well.

Mr. Convey: Mr. Wylie, what kind of connection would you get with fence wire?

Mr. Wylie: You can rig up a barb fence wire, draw your staples and wrap a little rubber around it, drive in your staples again, and you get for eight or ten miles as good a telephone system as you want, on a fence wire. Of course, you have to have some poles to get over the roads. In this way you get a very good line and a cheap one.

Mr. Hubbard: Would you people object to another set of farmers using your poles?

Mr. Wylie: There would be no necessity of that. All the farmers on that line are on the line now.

Mr. Hubbard: There might be some disaffected ones. In our county the farmers are using the Bell poles and putting their wires on them. They consulted as able attorneys as there are in the state, and they said they had a perfect right to do it.

Mr. Wylie: The Bell people are better to the farmers up there than they are down here.

Mr. Hubbard: The Bell people have not kicked yet.

Mr. Wylie: Your company do not run their wires over the Bell people's line? A. No.

Mr. Ames: Can you give us a comparison of the double and single wire systems?

Mr. Wylie: For our work a metallic system would be no

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better. In fact, it would be more troublesome than the ground circuit. In Madison where you have electric lines of street cars and so much electricity, it affects the ground system. As soon as the switch is turned on in Morrisonville I can hear the street cars here in Madison.

Question: Is it the induction?

Mr. Wylie: Yes, you have to have a metallic circuit under those conditions. You could not run a grounded line through the city of Madison very well.

EVENING SESSION.

AGRICULTURAL OBSERVATIONS IN EUROPE; THEIR LESSONS TO THE AMERICAN FARMER.

By W. A. HENRY, Dean of the College of Agriculture, University of Wisconsin, Madison.

During the summer of 1899 it was my privilege to spend several months in Great Britain and on the Continent, devoting most of my time to a study of the agricultural features of the regions visited. I was particularly fortunate in my sojourn in Holland. On shipboard were an American citizen and his wife who had left Holland long before to make a home in the New World. They were now returning to visit childhood scenes. They said to me: "When you come to Holland, you must visit us at Schagen, and we will show you the people and the county." This was a rare opportunity, for it made it possible to visit the country people in their own homes and see them in their everyday life—something which is denied most travelers, who are able only to study strange countries from

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what they see on the streets, from the railway trains, in the hotels, the art galleries, etc. My journey to Schagen was from Amsterdam northward along the narrow tongue of land which separates the Zuyder Zee from the great North Sea. Nearly all of this land has been reclaimed from the remorseless ocean through the agency of great dikes of earth piled up by the hand of man, rock-faced on the outer side to ward off the ever-etching waves which pound against it. Just outside of Amsterdam we passed through a little Dutch village where Peter the Great learned shipbuilding centuries before. Hundreds of great windmills, their arms reaching 60 or 70 feet into the air, are in sight at this point. Our train carries us northward rapidly and we observe that we are passing through a rich country. At Schagen our friends met us at the railway station. As we pass along the single principal street of the quaint village of 1,200 people, we note the cleanliness of the brick sidewalks and are told that they are scrubbed at least once each week, Saturday afternoon being devoted to such efforts. And woe to the citizen of Schagen who may be so shiftless as to leave this task undone! The window frames and lintels of the doorways of the houses receive the greatest care, being carefully polished each Saturday after thorough scrubbing, the final touches coming from the use of the chamois skin. Nearly all of the houses are hundreds of years old, and their red brick walls with red tile roofs, often moss-grown, form a strange sight to an American, to whom everything is new. But it is to the country we must hasten.

In a carriage drawn by a single horse my friend, his wife and myself begin our tour of visiting, for they are to call upon old-time friends, many of whom they have not seen for a quarter of a century. The road-way is as level as a floor and of the best macadam. Each side is lined with trees, and just beyond are the road-way ditches in which the water is often three or four feet deep, and the banks sometimes far enough apart to admit tiny canal boats passing back and forth.

The fields are square in outline and of from five to fifteen acres, usually in area. There are no fences, the field bound-

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aries consisting of ditches so wide and so deep with water that the cows dare not cross them. Everywhere there is grass either in meadow or pasture, for little grain is grown in this region. Dairying is almost the sole occupation of the people. Ninety-five per cent. of the cows in this district are black and white, being "Holsteins," as we call them, of the highest type. We should call them Dutch cattle, for Holstein is a long way off. What a beautiful scene was spread out all about us as we pass along the perfect highway. The checker-board fields are covered with grass as green as grass can be. In half the fields the cows are grazing or quietly ruminating as they rest. And how numerous they are! A hundred or more are in sight all the time,—not many in a field, but still cattle everywhere. In Holland the weather is often unpleasant because of the chill damp winds from the cold North Sea, but during our stay everything was at its best. Overhead the sun shone bright and warm. Contentment and peace reigned everywhere. To add to the charm there was the music of the skylark, whose notes have an unexplainable charm to the American hearing them for the first time. There are numerous wind-mills of all sizes. From the ditches surrounding the fields the water is lifted into an elevated ditch made by banking up the earth two or three feet high. Along this elevated water-way the excess water runs to a point where it is lifted by a larger wind-mill into a still higher and wider canal. Thus the water is elevated from five to fifteen feet until finally it runs off into the sea through great canals large enough for boats of considerable size. The region in which we are visiting is from ten to fifteen feet below the level of the sea on either hand. We are approaching our first Dutch house and our interest changes from the charm of the fields, cows, and wind-mills to the habitations of man and what immediately pertains to them. At our first stop, the house, as usual, is close to the road just across the ditch or water-way. Passing over the bridge we drive to the rear of the structure and are greeted by the good Dutchman, his wife and the sons and daughters. There are the usual salutations, but all in a strange tongue. I am introduced and make the best of the situ-

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ation. We are invited to enter the house and as we pass in our Dutch friends slip off their wood shoes and encase their feet in slippers. Here is the first point where the Dutch excel us, for all of the dirt of cow-stable and field in America would be left outside if we practiced the same habit of disposing of our ordinary foot-wear before entering the house. But to my surprise we have entered the cowstable, though there are no cows within at this time. And now for a brief description of the Dutch home. The building is about 40x50 feet in area, of red-brick and one story high. They cannot build higher houses for the ground is too soft in many places. The high steep sloping roof is covered with thick thatch of a rich brown color. As we entered I observed a platform about as high as a table and about eight feet wide extending along one side of the building. Here was where the cows stood in winter. "But how can they reach so high a platform," you say. A gang-plank reaching from passage-way to platform permits the cows to be led to the platform each fall when they enter the stable, and they remain on the high platform until spring, when they pass down again to be taken to pasture. If the weather is cold in spring or fall the cows are blanketed. Along the bottom of the platform runs the manure-drop, and back of this a wide passage-way. Off the passage-way at its far end opens a room along the second wall of the house, and behind this is another room. These are the living rooms for the family. Along the third side of the square is a passage-way with high doors through which loads of hay may be driven. The hay is pitched into the central part of the structure and is piled high into the roof and over the ceiling of stable and living rooms. The fourth side of the square is generally occupied by dairy rooms for the manufacture of butter or cheese. These, however, are given up to other uses in many cases, for the farmers now generally patronize the cooperative factories. Some of you will say that the Dutch people cannot be very clean if they live in the same building with their cows. Let me describe the cow stable as it appeared in summer time. The passage-way back of the platform was covered with carpet, the manure-drop with rattan matting and the floor of the raised

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platform on which the cows had stood, had been scrubbed and scrubbed until it was as clean as any house-wife's kitchen table, and then covered with white sea sand and decorated with beautiful sea shells. In some houses choice china was used for decorating the platform. In some of the houses the family were living more or less in the cowstable during the summer time for a change, just as we practice camping out. The dining table was placed where the cows had stood and steps led to the platform. I was surprised to find several houses supplied with gas made from gasoline in a gas machine located at a safe distance from the building. The Dutch house-wife in many cases cooks with gas. Moreover, she buys a large part of the bread, cakes, etc., from the bake shop, which delivers goods wherever needed. I found Dutch farmers who understood the Babcock milk test and kept records of the yields of mik and the fat per centage of their cows. In England the land must support three classes of people, the owner, the renter and the renter's help. In Holland it supports two classes—the Dutch famer and his help. In the lowlands of Holland the Dutch farmer does not work very much with his own hands, nor do his sons, excepting when hay harvest is on. The help live in small cottages close by the combined house and stable, and do the most of the work. The farms are not large, and on each farm are kept from ten to eighteen cows. Each animal brings about $80 in products, and old cows sell to the butcher for from $80 to $100 a piece. Breeding stock sells at from $100 to $300 each. Holland was hard hit on the opening up of the grain fields of Australia, America and the Argentine. Then too Denmark took away a large part of Holland's butter trade in Great Britain. The Dutch housewife in earlier times made butter in her own way. Butter from ten or a dozen farms was packed in a single keg holding 110 pounds, for the English market. There could not be uniformity in such a product, but until Denmark appeared on the scene the English people were fairly well satisfied with Dutch butter. The depression brought about by these combined influences wes very great and land worth $400 or $500 an acre fell to half that price in many cases. The richest parts of

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Holland agriculturally suffered the most for the people had followed styles of living beyond their means under the depressed conditions forced upon them. Now Holland is endeavoring to recover from her former state by pushing agricultural education, by combined dairying, however, is an uneven one, for her competitors, already ahead of her, are still progressing and are alert to every improvement. Much more could be said about Holland, but let us pass on to Denmark, for there is much more in this country to excite our admiration and arrest our attention than in Holland.

Remember first of all that Denmark covers but a quarter the area of Wisconsin, while its population is ten per cent. larger. In your mind draw a line from Sturgeon Bay to Marshfield; then south through Madison and eastward along the Illinois boundary line with Lake Michigan as the eastern border,—this limited area equals that of Denmark. Imagine within that small space 2,200,000 people or ten per cent. more than in all Wisconsin, and you gain some idea of the density of the population. Consider further that Denmark has no mineral resources. She is without iron, coal or precious minerals. Her forests were worked out ages ago, excepting as she grows trees artificially. Nor are all of the lands useful for agricultural purposes. In the western part of the main land there are great sand barrens too poor for even growing scrub brush. The little country of Denmark, surrounded by more powerful neighbors, supports royalty and has an army of 50,000 soldiers, and some iron ships-of-war as well. The agricultural lands of Denmark have been farmed for thousands of years. Now, in view of these situations what sort of agriculture might we reasonably expect in Denmark? We found a thrifty progressive people in dead earnest about their vocation,—we found a people who have pushed agricultural education as it has been pushed in no other country, all factors considered.

Dairying is the leading industry of Denmark. Wisconsin creameries turn out about $16,000,000 worth of butter per year. No small portion of this is consumed at home, and probably not over ten or twelve million dollars worth leaves the state for sale

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elsewhere. Little Denmark, a quarter as big as Wisconsin, exports annually $25,000,000 worth of butter after making due allowance for all imports. This great export has not come about by chance, for the Dane cannot make a dollar by any short-cut method any more than can we in Wisconsin. How has this great output been brought about? Fifty years ago Danish butter was about the poorest in all Europe, and Holland was her easy leader. Gradually the people began to improve and the government saw an opportunity for aiding its people. Experts were sent to England and elsewhere to study market needs. A dairy school was established in the agricultural college at Copenhagen and hundreds of trained dairymen sent out therefrom to operate the creameries and cheese factories. Today Denmark keeps a traveling butter expert in Great Britain, who devotes his whole time to gathering facts concerning Danish butter and butter from other countries, and reporting to the government and through that to the farmers the market conditions. More than that, there is at the agricultural college a system of inspection going on steadily. A large refrigerating room serves as headquarters. The professor in charge telegraphs to say forty creameries to "ship by first express a tub of butter." The buttermaker has no chance to make a product with more care than usual but must immediately send forward such as he has on hand. When the forty tubs have arrived and have been cooled in the refrigerator, three butter experts headed by the professor in charge enter the cool room and inspect the butter, marking their scores. These scores are sent at once to each operator sending in the butter, and thus he knows just what faults there are with his product. The butter is sold for what it will bring, and the state pays the loss between what it cost at the creamery and what it sold for. Thus lot after lot of butter is inspected throughout the year. Denmark expends not less than $10,000 annually in this one line of inspection effort. Danish butter now brings the highest price of any in the English market where large quantities are sold. But has Denmark anything else agriculturally of note? Her bacon curing factories interested me greatly. Instead of great slaughter

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houses such as we find in this country, the bacon factories are small affairs scattered all over Denmark. We visited one which worked up the hogs from 800 farms. This factory was owned by fifty farmers and was a sort of stock company or cooperative affair. The government of Denmark some years since believed that the time was at hand for enlarging her pork output. Again the same businesslike methods were undertaken. Experts were sent to Ireland to find out how the Irish pig was fed and how the bacon was cured because Irish bacon stood first in the market. Denmark did not try to outdo the United States in the production of fat pork and lard. She realized how usel ss such an effort would be, but she believed that she could supplant Ireland in the fine bacon trade and make a market for all her products in that direction. And what is the result? Denmark is now exporting more than $13,000,000 worth of pork products, mostly bacon, annually. This more than equals the value of all the hogs we are shipping out of Wisconsin, and yet our state is four times as large as Denmark, and we have a smaller total population to support.

But I am not yet through recounting Denmarks marked advancement. Not satisfied with the greatest out-put of butter from any one country on earth, and the largest pork product, area considered, Denmark recently began to advance her poultry interests. Most of the farmers have combined into what are called syndicates. The farmers in a neighborhood form a local syndicate, this syndicate having its own number, and each member thereof having his number in the syndicate. Each member is supplied with a stamp. As soon as the eggs are brought into the house they are stamped with the date they are laid, the number of the syndicate and the member's number therein. These eggs are taken to headquarters three or four times a week and from there shipped to Copenhagen. At Copenhagen the eggs are sorted according to size into four grades. If a person sends a bad egg to Copenhagen, he is fined the equal of $1.00 for such a mistake. And what of the result? In five years Denmark has increased her egg export 80 per cent. The United States exports about half a million dollars worth of eggs annually.

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Denmark exports about $4,000,000 worth of eggs annually, and yet Denmark is only a quarter as large as Wisconsin.

We boast of our agricultural exports from the United States. We point to the vast sums we receive for our cotton exports, for the wheat we sell to other countries, for the beef, pork, corn, and many other agricultural export products. Add up all the money other countries pay us for whatever is sold from our farms, and it equals $11.00 for every man, woman and child in the United States. That seems a large sum and we regard it as pretty creditable. On the other hand, Denmark with its dense population and with farmers tilling soils that have been farmed for thousands of years, exports $33.00 worth of agricultural products for every man, woman and child in the country. It is but fair to say, however, that Denmark is forced each year to buy great quantities of feeds from other countries in order to carry on her agriculture. In 1898 Denmark imported 10,000,000 bushels of corn, most of which came from the United States. She also bought $4,000,000 worth of oil cake, mostly from this country. Think of it, farmers of Wisconsin! Corn is shipped from Illinois and Nebraska and oil meal from Minnesota clear to New York, more than a thousand miles; then four or five thousand miles across the ocean; then out into the country by railway again and finally the farmer draws this feed home by wagon to make eggs, bacon and butter, to be shipped over to England in competition with our own products, and yet we hear that farming does not pay, that our farms are being exhausted and that there is need of more agricultural education, or more attention by our government or state to matters agricultural.

Today the Danish farmers are the most advanced, the most pushing and the most progressive of all Europe, all things considered. They have reached their high stage of advancement through wise aid from the general govrnment, which has carefully but studiously study the agricultural interests and needs and possibilities of its people. The farmers have not rested with government aid and become helpless through such influence, but seem to have been stimulated thereby rather than be-

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numbed. They form local syndicates, as they are called, for the handling of their products and for making purchases. The farmers of Denmark have learned of the great possibilities which accrue to them through cooperative effort.

It seems to me, in learning of what they have accomplished with so many difficulties surrounding them, we have many lessons of great usefulness to the American farmer.

GOVERNOR HOARD'S ADDRESS.

Mr. President, Ladies and Gentlemen: I do not know where I would reach for an address if I had it. I do not know that I would recognize one if I met it in the road. I am not in a very addressy mood tonight. The boys called me up this evening and pumped me dry and you have before you the remains.

Way down in the good, old state of Massachusetts, about forty miles from Boston, in a little, quaint New England village, lived a man by the name of Simpson. He was undertaker for that portion of the community of the state. He had a very likely mare. She was full of talent and capacity and the old man had a keen eye to all the possibilities that lay in her. He used to get her out with his old Concord buggy and he would take the dust off from the mayweeds and he would lay the boys out on the road.

A liveryman from Boston, traveling through the country seeking whom he might devour, got his eye on the mare and concluded that he would get hold of her. So he sat out in front of the little hotel for a day or two and watched her, got her paces and figured up her capacity. Then he went around to Mr. Simpson's one morning and found him hoeing in his garden. He had a red flannel back to his vest which made him more picturesque.

"Good morning, Mr. Simpson."

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The old man straightened up and leaned on his hoe and said: "Morning, sir! how d'y do?"

"You have a nice garden here, sir."

"Yes, the garden is good enough."

"Your vegetables appear to look all right."

"Yes, they are all right; have to be; tend right to 'em, you know."

And so they had a little by-product, preliminary kind of talk. They did not come down to the main question at once, but dwelt upon the nutritive ratio there was in the talk. Finally the liveryman says:

"Mr. Simpson, I have been taking notice of that mare of yours, a very likely mare."

"Yes," the old man says, "She is good enough."

"I have a friend down in Boston and he has the dead match to her. He wanted me, if I saw a chance to match up his horse, to get hold of her and I thought I would come and see you."

"We don't match very well up in this country."

The liveryman could not arouse any interest in the old man and he was rather piqued at his failure. But he finally concluded that he would stir him up a little and he says:

"I was talking with Mr. Hobson about your mare this morning and he said she was a very good animal, but he incidentally remarked that he had passed you before now."

There was a change in the situation. The old man straightened up suddenly and said:

"What did Hobson say?"

"He says he had passed you before now."

"He did, eh? Hobson passed me? Well, I don't know who you be nor where you come from nor what your business is, but seeing as how you been talking with Hobson about my mare, maybe I better tell ye about that piece of business. You see, I do the burying for the country around here. I plants 'em. When old Squire Jones died he was the heaviest man in these parts. I suppose he weighed about four hundred pounds. Hobson never agreed with the Squire in anything at all. They

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argyfied on everything. He didn't agree with the squire about dying even, and he thought it would be mighty cute, when we all got into the procession to start off at the tail end of it and go by that whole procession, on account of his disagreement with the Squire.

He got along first rate down toward the rear, and you see there I was on the hearse driving the mare, and hauling four hundred pounds of remains. He came up whipping his horse and cavorting and careering to beat the band, and as he struck opposite me, the mare seemed to have some properish ideas of her own and she let out, and so we went up the road. But you can see for yourself that it want no fair race. Hobson was flying light and I was handicapped with four hundred pounds of remains. We kept on that way and I did not discourage the mare any until I suppose we had gone about three miles. *Then* the bearers, who were on horseback, come runnin' up and said as how the procession had arriv at the cemetery and if they had a corpse they could be puttin' in their time. Then I pulled up. I see that it want best to carry the matter any further, you know, and Hobson passed me, and that is only way he ever did go by. You see for yourself it want no fair race."

And that is the situation I am in tonight. The hour is late and I am not in the very best condition, and I feel as though I was really the "remains."

Did it ever occur to you, (and I presume it has) that the great agricultural population of the country embraces the elements, not only of the foundation for the accession of our wealth and thrift, but that it contains the elements of our literature? Has it occurred to you that when a man writes a book that lives in the literature of America, he enters in the life of the farm? Take Eben Holden, for instance. What is "Eben Holden," with all its wonderful wealth and pith, with its great sale all over the United States? It is the story of an American farm hand—the hired man of the farm. Take "David Harum," the scene of which is laid near where I was raised. I can look back in my memory to a dozen David Harums. I will relate an incident of one.

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Old Uncle Sam Evans was a horse-trader, like David, a born leader among men, a man of the most keen, cutting, sarcastic wit, illiterate, but of wonderful perceptive power of mind, who had always a troop of boys at his heels (for boys are instinctive judges of human nature and character) was elected to the legislature of New York and the way he was elected was unique. It was over fifty years ago. The Whig boys and the Democrat boys put up a job on the leaders of both parties, and before they knew what they were about, the boys had run in old Uncle Sam as an independent candidate and elected him triumphant. He went down to the legislature, a dull saturnine looking man with a face long enough to "eat oats out of a churn." He took his seat and it was the very humblest one. He said he thought he would "get the hang of the barn" first. Some proposition came up. I think it was something concerning a feeder to the canal and the old man was interested in it, and he arose and said:

"Our folks would like that 'ere thing fust rate, you know. You ought to give it to us. It belongs to the state. It is your business to look after the state and the state's property. You aint doin' your business if you don't do your business as you ought to do it. Our people want that because it is right, and I want you to give it to 'em." This he said in that simple, direct, homely manner which at once riveted the attention of every man in the New York legislature.

A young lawyer from Kings county thought he would win imperishable renown if he jumped onto Uncle Sam's proposition. So he made a frothy speech against it. This chamber has witnessed some speeches of this kind.

The old man cocked his head one way and the other and tried to get the drift of the young fellow's remarks, but he could not. The young man sat down and Uncle Sam got up and said:

"Mr. Speaker, I would reply to that ere speech only that it always racks me terrible to kick again nothing."

Well, this keen thrust was relished, and men of culture there recognized the apposite wit of the old man, but the young fellow could not see it until he had brought upon himself his full share of punishment. The next day he got the question up again in

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some way and made a very ugly assault upon the old man, accused him of illiteracy and ridiculed his constituency. The old man listened to him and finally interrupted the fusilade by saying:

"I don't know nothin' at all about your parliamentary; you can see that just as well as I do, but I do know that that fellow aint tellin' the truth."

The young man bridled up and said: "I will have him to know that I have graduated from two colleges and I think I know what I am talking about.

The old man watched him for a moment and then, uncoupling his six feet and four inches, more or less, of legs and body, said:

"Mr. Speaker, I once had a calf that sucked two cows and so far as I could see, and I took right close notice, the more he sucked the bigger calf he growed."

And there are hundreds of those men, born in the shadow of those hills and educated in the curriculum of that strenuous, rugged life. They were men of native power, pith and ability and no man could indict their heredity, for they were born of the straight-grained, virile American blood that forms a combination from all the best blood the world has ever produced. I have been a student of this peculiar phase of American life. I have had an ear attuned to it wherever I have been. I have met it in the mountains of Colorado, the same type, the same quality. I have met it among the crackers of North Georgia. The present governor of Georgia, Governor Candler, is a North Georgia cracker, a man of wonderful power and pith with his people. Why, he can spit in two spittoons at once. He is said to be the only man in Georgia who can do it,—a typical North Georgia cracker—and yet a man who will impress you at once with his native power.

I remember while in the mountains of Colorado meeting men of the same peculiar quality. In Breckenridge, early one morning, I went out to witness the sunrise. Breckenridge was at one time one of the greatest mining camps in the Rockies. He was an old forty-niner and I recognized him at once by his type, for you know I am a student of types. He was tall, gaunt, dirt-

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stained, rugged, with a face seamed and canyoned like the rocks in whose matrix he had been moulded, and I saw him leaning up against a saloon waiting for it to open. It was the only place of warmth and welcome that the philanthrophy of that town had provided. I stepped up and said: "Good morning, Uncle." he had long, bushy eye-brows with keen eyes that lay in ambush beneath them. He replied very measuredly: "Mornin', sir."

I broke forth into an eulogy as to the beauty of the scenery of that portion of the country. I said: "This is a wonderful country, sir." He was studying me and I could see all over his face this query: "I wonder what his game is?" Then he answered, "It seems to be."

I said, "I should think you would have trouble here in the spring of the year when the snow goes off. I should think it would rip everything loose."

Then I saw a wary expression which meant "Tenderfoot" come over his face, and then came the genius of his love of exaggeration. He replied: "Yes, sir, I've knowed it here when we have had to cross every stream lengthwise."

I remembered that there went from our section of the country a man who lived in Breckenridge and he was a good deal of a rascal. We will call him Smith, because there are less of those among the Smiths. I said, "Did you ever know a man by the name of Smith?" His quick, wary eye shot out a glance toward me as I further inquired: "What kind of a man was he?"

I want to call your attention now to the rare quality of his answer. I have never met any man of scholastic education who could exceed it. Regarding me a moment he said "Well, sir, he'd make a first class stranger." I studied that reply for an hour after I left him. The briefness of it, the adroitness of it, and the comprehensiveness of it,—how much he had said to me regarding that man and the power of his characterization.

While in Georgia they told me a little story concerning the peculiar characteristics of the north cracker. I was making a tour down through there lecturing,—talking agriculture. They had put a railroad through a new portion of the country. Now,

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some of those men have never been ten miles from their homes. This Cracker with his wife and little dog were standing in the door of their cabin as the first locomotive came over the road. There was awe and wonder and a certain quality of consternation in their faces as this specimen of the power of modern civilization went sweeping by. As the locomotive passed the cabin the dog took up the track after it. The wife says to the husband: "Jim, do you think he will get it?" Jim regards the race for a minute and says: "He might, but I'll be dogoned if I can see what he would do with it if he did get it."

I have learned to regard those people with the deepest respect. I know that there is today in the society of Wisconsin and among people of culture, sometimes, a sentiment of contempt for the "hay-seed," but let no man or woman draw too far upon his or her family line, for, as John G. Saxe put it:

"It might end in a loop of stronger twine
That plagued the neck of some worthy relation."

The agricultural population is the root and the source today of American greatness.

The ignorance which pervades the agricultural classes is in some sense of itself characteristic and original. No man can stand in the presence of Nature, though he may not be learned in books, without he become somewhat impregnated and saturated with an understanding of its forces.

The most convincing exposition of the financial question I have ever heard in my life, I heard at the convention which nominted McKinley, in St. Louis, and was given by an old German who was standing on the sidewalk in front of the Lindell hotel. I will repeat it to you. I have read everything that the doctors of finance have written in this country, and yet it was reserved for that old, simple-hearted German to say more in a talk of five minutes than all that had been said or written to my mind. It was the next day after Senator Teller and his confreres retired from the convention on the adoption of the plank, contrary to their wishes, regarding silver. This old German was standing on the sidewalk surrounded by his friends, and I judged that he was a delegate from some portion of Missouri. They had

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asked him what he though of Teller's bolting the convention, and with a sort of kindly, benignant smile he said:

"Ach, vell, you got to let him go; you got no law for to make him stay. In deese country ven any man vant to make some kinds of a fool mit himself, den he got dot right. But dem fellers dey fool me not ven dey speak mit der mout by the platform, den I seen ot der thruth, der *wahrheit*. Ven dey run der convention out unde I can look behind der back den I see behind every vun a silver mine. Vell, I got me no silver mine. I got me just beef and pork and wheat and I not run der convention out. Always old Fritz must give 16 ounces by the pound. Sure. He don't can help it. Und dat must always be honest grain and honest meat. He don't can help dat neider. Now it will not be a good ding for old Fritz ven he got to give sixteen ounces by the pound of honest meat and honest grain and he got back one-half silver and der oder half humbug."

And so he worked that strenuous, evenly-balanced old mind laboring to express himself in a way that would be understood.

"Who makes de price on dot meat und dot grain? Old Fritz make it? So. Who make dot price? De rich men vot dot der capital. Dey make de market unde dey make de price. Who own de silver mines? De rich men vat got de capital,—maybe de same men vat made de price on de meat und de grain. Now, boys, it vill not be a good ting for deese country ven de men vat make the price on de meat und de grain can make de money too. *Besser*, de government stand between de rich men und the poor men und de government make de money."

Do you know of any man who has analyzed the root and the stalk of that whole financial question better than that old German who had though it out between his plow handles? And so I say, in our contact with the world, with its work and everywhere else, let every man thank God for his own contact with the soil. Let him keep his heart loyal to the men of the soil, no matter of how much they may be ignorant; no matter how uncouth and ugly they may be. Let every man keep his heart loyal to the men who till the ground, for from them shall come the final fruition, the brains and the culture and the grasp and

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the comprehension, not only of agriculture, but of statesmanship, of citizenship, and they are the jury to which this country must finally refer all of its great and momentous questions.

I want to see my countrymen and my countrywomen come to a full understanding of the meaning of agriculture; and I want to see the farmer himself come to a full realization of his own privileged position. And I am glad, oh, so glad, that my old eyes have gazed upon this audience before me; that I have been enabled to see the growth, the hunger and thirst for knowledge of which these meetings are evidence. When men hunger and thirst after knowledge, as the "Heart panteth after water brooks," then there shall come to those hungering and thirsting souls a deeper understanding of the laws of Nature.

I have always felt very deeply upon these questions. I have always given whatever I had of voice or pen to a better growth of the dignity and character of the agriculture of my country. For a month I have been in Washington, where I have been trying to promote a righteous piece of legislation. I have been engaged there in trying to push back to its own ground a counterfeit and fraud which interested capital has been trying to fasten upon the fair limbs of the dairy industry of this country. I have been trying to fight oleomargarine, and I have been very much interested in the moral aspect of the case as I saw it before congress.

One man said to me: "It is the strangest thing I ever saw. We have one hundred millions of capital. We have a bill here in Washington and it aint worth a d—d cent." I liked to hear him say that word. I have no moral scruples to be shaken when a man says that word under circumstances like that. I liked to hear him say it, because there was the ring in it of a beleagured soul. He said: "You National Dairy Union men say that you have raised only $16,000 in fifty-cent contributions etc., and you come down here and the whole congress falls in. Who are you?" "Well," I said, "You wait until you have been introduced to us in due form and you will not hunger and thirst for any more information." (Laughter.)

I said, "A word with you, my friend." Do you know that

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you represent a class of men who think that money, greed of wealth and all those corrupting influences can run this country? Thank God————

One representative from Georgia said to me: "I have got to vote for this bill. I have had 108 letters demanding it." He had 108,000 population in his district and 108 letters did the work.

I further said to this oleomargarine man: "I am glad for the moral aspect of the situation that your millions of capital, your pork packers and your beef packers and all these men who are at league in this business, I am glad that you realize that, with all your enormous capital, a few farmers can blow the horn of Gideon and down go the walls of your city."

He replied: "I don't know anything about your bible proposition." I said: "If you did, you would know what I mean." Do you know why he did not understand? That man had come up with the idea that money is the god of the world. It is the god of cheap men, but it is not the deity that any straight-grained, sound-fibred man worships, and I want to say to you that it is a cheering thing that the congress of the United States listens to the farmers of the United States. It is a cheering thing to me that votes, as light as the snowflake, yet as heavy as the will of God, the votes of this country are worth more in congressional estimation than all the money that all the rich men of this country can produce. It is cheering, and I want to encourage your young hearts, and I want you to build yourselves up in a citizenship that stands today for humanity, for civic rights, for purity in politics and for justice among men. I want you to go back to your homes and feel that there is a dignity and character in the life of a farmer; that it contains the elements of greatness; and take with you that sentiment which was uttered by the Persian courtier to his king, and it will always be your salvation: "Honor be to me as I honor thee."

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MORNING SESSION.

February 6, 1902.

Mr. McKerrow in the chair.

The Chairman: Our first topic this morning is, "Oat Smut: its Prevalence, and Method of Eradication," which will be presented to you by Prof. R. A. Moore of the Agricultural college, who has been working along this line for the past season. It gives me pleasure to present to you Professor Moore.

Members of the Agricultural Board, Ladies and Gentlemen:

From personal investigation and reports from former Short Course students during the past three years, I am led to believe that oat smut is prevalent in large quantities, and annually on the increase. Personal investigations during the past season, in sixteen of the leading oat producing counties of the state revealed the fact that no less than 20 per cent. of the oat crop was affected with smut; many fields from careful tests showed from thirty to forty per cent. of the oats destroyed. This means much to the farmers of our state and unless active steps are taken to eradicate the evil, our fields will be invaded with smut and seed oats inoculated to such an extent that we will be compelled to give up raising oats.

Cause of Smut.—Smut is caused by fungus parasites that multiply and grow within the grain plant and eventually destroy the seed of the affected plant and contaminate the seed of the healthy plants by the scattering of spores largely during the ripening period of the grain. The smut spores do not live through the winter in the ground but are killed by the action of the elements. The smut that affects the crop lives during the winter as spores on the seed grain and begin their deadly work shortly after the seed is sown.

Loss Due to Oat Smut.—The Wisconsin oat crop of 1901 is estimated by Hon. John M. True, secretary of the Wisconsin State Board of Agriculture, at 73,000,000 bushels. If this

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estimate is correct and if 20 per cent. of the crop was lost because of smut, which estimate seems a reasonable one judging from our investigations in sixteen counties, then the farmers of the state would have aised 91,250,000 bushels, if the crop had not been affected with smut. Here is a loss of 18,250,000 bushels. Estimating oats at 35 cents per bushel, the farmers of Wisconsin have experienced a loss of $6,387,500 from the ravages of oat smut in the past season's crop, all of which could have been saved if the seed had been properly trated. Nor is this all. It seems quite conclusive that the spores of the oat smut are poisonous to a certain degree, and the farmer who neglects to eradicate the smut not only loses a portion of his crop, but endangers himself and family by coming in contact with the smut spores during the threshing time and at other periods.

Dr. Joseph Snyder, a noted specialist of diseases of the eye and ear, Milwaukee, writes under date of September 17, 1901, in reply to an inquiry, as follows:

"My Dear Sir: In answer to your letter, will say that in the couse of years I have seen quite a number of cases of inflamed eyes among farmers caused by grain smut. These cases all were identical with other cases of infectious conjunctivitis in that they showed swelling of the mucous membrane in a greater or lesser degree and much pus secretion."

From investigations made by the Experiment Station and reports from former Short Course students and other residing in different portions of the state, no other conclusion can be arrived at except that oat smut is everywhere prevalent in large quantities. This being the fact, what we are looking for is the remedy for eradication.

Two methods are herewith recommended: first, seed oats should be treated in accordance with directions given herewith, and secondly, by securing seed that is not contaminated with smut. The Experiment Station is making strenuous efforts to help by both methods. This year the station grew about 300 bushels of Wisconsin No. 4 oats, of which the seed had been treated for the eradication of the smut. Not a single smutted

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head could be found in the field at any time during the growing period. A portion of these oats have been sold to members of the Agricultural Experiment Station Association with instructions to grow them for seed, and this variety of seed oats will be available to farmers from these seed growers after another year.

The first method is the one, however, we should resort to this year and the method we must rely on to the greatest extent, in the immediate future. This method is known as the formaldehyd treatment, and is simple, cheap and effective. Secure from your druggist one pound or pint or formaldehyd solution (sometimes called formalin) for each 50 bushels of oats you wish to treat. If you wish to treat 100 bushels of seed, secure two pounds; make a solution composed of one pound of formaldehyd and 50 gallons of water, or two pounds of formaldehyd and 100 gallons of water. Put the solution in four barrels, about 25 gallons in each. Place in gunny sacks about one and one-half to two bushels in each sack, and submerge sack and oats in the barrels of liquid for not less than 20 minutes. Lift from the barrels and let drain for a minute or two, and then empty on the threshing floor or on a canvas to dry. By shoveling the oats over two or three times daily, it materially facilitates the drying.

If the oats are submerged somewhat longer than 20 minutes, no detrimental effect will be noticed except it may take a little longer to dry them. It is very essential that the oats be submerged for 20 minutes; an experiment the past season where oats that had been affected to the extent of twenty per cent. were submerged in the solution prescribed, for ten minutes instead of twenty; the growing test revealed one per cent. of smut, showing that the treatment was not entirely effecive. If we reduce the time of submersion we should use a stronger solution. The formaldehyd treatment prescribed for oats will also eradicate the barley smut and the loose smut of wheat.

For full treatise as to the experiments carried on by the Station and personal investigations made, I take pleasure in

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referring you to bulletin No. 91, which will be sent to any farmer of the state on request.

DISCUSSION.

Question: Will it be necessary to continue treatment after first year?

Prof. Moore: If you leave even one per cent., it is going to inoculate the other good oats. That has been the trouble with some of our past methods, while they would reduce the amount of smut from 20, 30 and even 40 per cent. down to two or three per cent. Unless you keep on treating every year, you still will have sufficient oat smut to inoculate the good oats and it would jump up 10 or 15 per cent. I raised from seeds obtained of a reliable seedman. I grew those oats and the crop had 10 per cent smut. I followed those oats the next year without treating them and they had 20 per cent. The past season I sowed fom the same oats without treatment and they had 31 per cent. I shall continue to sow them and see what the outcome will be.

If you are going to submerge only ten minutes, if you cannot take twenty minutes, then make your solution up stronger. Make it one pound to thirty gallons of water. It will not hurt the oats and it will eradicate in ten minutes. This solution must come in contact with each individual oat. We wish to have them submerged so that the solution can come in contact with each individual grain and then it will be entirely effective.

Out of ten to twenty tests made during the past season to prevent oat smut by submerging, there was not a single head,—you could not find a single head in the entire field of eighty acres with smut, and the year before they were affected 12 per cent.

During my investigation last year on barley I found a number of fields badly affected. Some barley fields were affected to the extent of 20, 30 and even 40 per cent., and one party

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in particular who had tried formaldehyd on his barley eradicated every bit of the smut as well as on the oats.

The grain also looks brighter for treating, even if there is not much smut.

Prof. Moore: Some people get an idea that formaldehyd is a sort of powder. You can buy it by the pound or pint. Formaldehyd is a gas generated from wood alcohol, and by using a tube you run it under water. Water will hold 40 per cent. of this formaldehyd gas in solution. You can buy it in solution. For fifty cents you can buy a pound and with that you can treat 50 bushels. Sometimes, if it is done carefully, you can treat from 75 to 80 bushels.

Mr. Chamberlain: In the sack going into the barrel, would not the outside seeds receive a great deal more of the solution than the inside seeds—that is, those oats inside would not be nearly so well covered with the solution as those on the outside, near the outside of the sack?

Prof. Moore: Those on the inside would receive sufficient to kill all of the germs. Out of from 50 to 100 experiments where the oats were submerged, the smut was entirely eradicated. We tried submerging for an hour and a half in this solution and noticed no detrimental effects upon the oats. They germinated the same as those that were treated twenty minutes.

Mr. McKerrow: It is only a question of drying afterwards.

Mr. Faville: I should think the moisture would stay in there.

Mr. McKerrow: They are emptied out of the sack.

Prof. Henry: What sort of a sack do you use for submerging?

Prof. Moore: Gunny sack. It is porous. I should advise gunny sacks. The water pours out easily after you have made the treatment. You can put your solution in several casks and have four or five sacks being treated at the same time. If you should put those sacks in just before dinner and should stay an hour instead of twenty minutes, there would be no detrimental effect upon the seed oats. The thing you should see to is to have them in at least twenty minutes. Experiments car-

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ried on during the past year have shown one per cent. after ten minutes. Be careful to leave them in fully twenty minutes. If left longer it will be all right, but it will take a itntle longer to dry them out.

Mr. True: What do you consider the danger from adjoining fields? If you treat your oats and your neighbor does not, are you in danger from his field?

Prof. Moore: I hardly think so. I carried on an experiment to test that and saw no effect where I had six feet between them.

Prof. Henry: That is the first year?

Prof. Moore: The second year.

Prof. Henry: Will a farmer who has thoroughly treated his seed one year have to treat it the next year?

Prof. Moore: No, I wouldn't advise it for a field entirely free from smut, but I would run a load or two through the thresher, because the chances are that the machine has smutty seed in it from the neighbors. By running through a portion that you are going to use for feed, it will take out the smut. If you save your seed oats to the last it may be quite a number of years before it will be necessary to treat the seed oats again.

Mr. Convey: The smut would be left on the boards.

Prof. Moore: Be careful of your sacks after you have had smutty oats in them.

Mr. McKerrow: Could you not treat the granary,—wash the walls?

Prof. Moore. Yes.

Mr. Lloyd: How close will the oats become inoculated?

Prof. Moore: The great danger is in the rubbing of the oat affected against its neighbor.

Question: Is there any danger of infecting the soil?

Prof. Moore: There is no evidence of it. Experiments carried on during the past three years show that on plots where there had been 20 per cent. of smut and where I sowed treated grain the next year there was no smut whatever. It does not live long in the soil.

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Mr. Convey: We have not carried on any experiments with corn smut as far as I have heard. I believe we have no direct remedy for corn smut. I think the chances are that it lives longer in the ground.

Prof. Henry: I wish to call the attention of the farmers here, who are representative and stand for the best there is in agriculture, to this work. The fact that formaldehyd would destroy fungus life was discovered by a German professor. The application of that fact to the treatment of seed oats to prevent smut is due to Prof. Bolley of the North Dakota Agricultural Experiment Station. Forty thousand copies of our bulletin on this subject were distributed. We published it in as many newspapers as we could get, and that was a large number. In spite of all that, not one farmer in a thouand treated his seed oats. The loss has been millions of bushels of oats this last year,—millions of dollars gone, and in a year when the farmer needs his oats either for feeding to his stock or for selling at a big price. Sometimes the conditions are such that with a large crop, the more on the market the cheaper the price. This year it has not been so. This year it would not have depressed the price at all. Many a man has lost this year from oat smut more than the amount of the taxes he has paid into the treasury.

What is the use of an experiment station if the people will not profit by it? In this single year the farmers have lost more from oat smut than our experiment station has cost, ten times over. If we would only send a fellow out with a silk hat and a fine team to sell this formaldehyd at five dollars a pound, there would be a lot of it sold; there would be any number of buyers; but because anybody can buy it at any drug-store and it has not been set off with a flourish, it attracts little attention from most of the people.

The Chairman: We have heard a great deal of northern Wisconsin during the past four or five years, and now we have with us a gentleman from that part of the state who is taking a great deal of interest in the local development, and who represented his county at our last state fair with some of the finest

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NORTHERN WISCONSIN FARMS. MARATHON COUNTY.

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exhibits every made by any county. I take pleasure in introducing Mr. L. K. Wright of Wausau.

AGRICULTURAL RESOURCES OF NORTHERN WISCONSIN.

Where is Northern Wisconsin?—The southern part of Wisconsin has long been famous as an agricultural country. North of this rich belt, but nearly all in the southern half of the state, a strip of sand land, of varying width, runs east and west across the state. Years ago this was spoken of as northern Wisconsin, and was looked upon as the beginning of the poor farming country, which was supposed to grow worse the farther north one went. A few years ago the legislature authorized the preparation of a hand book, setting forth the agricultural conditions of the northern part of the state. This book was prepared under the direction of Prof. Henry, who was one of the first to forcibly call attention to the fine agricultural district north of this sand belt. In a general way this hand book speaks of northern Wisconsin as lying north of a line drawn east and west from Green Bay to Hudson. No arbitrary boundary can be made, but, generally speaking, northern Wisconsin may be said to embrace all of the original great timber belt of the state.

Timber and soil.—Prof. Henry, in the book referred to, groups the soil of this section under seven heads. I will class the soil under four heads, identical with the timber growth. A farmer who sees a growing crop can form a good idea of the soil it grows on. In the same way a crop of timber is a sure index to the soil. This should be borne in mind by those buying stump lands.

Hardwood lands.—A great many people have looked upon northern Wisconsin as originally timbered almost wholly with pine, but a large part of this section of the state was covered

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with great forests of the finest hadwood, and though a great deal of this hardwood were scattered immense white pine. This hardwood land is the best agricultural land we have and runs largely to a clay soil. It is often stony, generally small surface stone, which can be easily removed.

White pine lands.—The finest white pine in the world grew in Michigan and Wisconsin. Great forests of it covered much of the region of which we are speaking. Such pine is never found on poor land. This soil is a mixture of clay and sand. Where hemlock grows with the hardwood, the clay is not so heavy as in the purely hardwood forests, and where it is mixed with pine the soil has more clay than is found where pine grows alone. The two soils blend into each other, often on the same farm.

Norway and jack pine lands.—This class of lands was covered with Norway and jack pine. Some of this timber was large and the soil that it grew on fair; some of it was poor and scrubby, and the timber was like the soil. This land is all of a sandy nature, often with a gravelly sub-soil. Eventually, I think it will nearly all be used fo agricultural purposes, but it is the poorest land we have.

Swamp lands.—The fourth class is our swamp land, where the timber was principally cedar, tamarack, spruce and black ash. Some of the swamps are of considerable extent; others are small, just put in among the high land to make good pasture. The richest land on some of our best farms was of this character and often nothing was done to reclaim is except to clear off the timber. Nearly all this land is suitable for agricultural purposes.

Present development.—In the southern part of northern Wisconsin agriculture is no longer an experiment. Homesteaders and settlers have been at work for forty years, and in nearly all the counties in this section may be found fine farms and large fields thoroughly stumped. Also in a good many sections the farm buildings will average much better than in southern Wisconsin. In my home county of Marathon, in the older towns I believe there are more modern barns, in propor-

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tion to the population, than can be found in any of the old counties of southern Wisconsin. This, no doubt, is because the farmers, having the timber on their land, get the lumber sawed out at very little cost, while southern Wisconsin farmers must pay high prices for their lumber. In this southern part of northern Wisconsin a transformation is going on. Our farmers who used to raise hay and oats for the logging camps, and many of whom used to be half farmer and half logger, are now devoting all their energies to the farm and modern methods are being adopted. They are going into dairying and stock raising and a manure heap has now a value in it. Good schools, roads and bridges are now the rule in this section. The climate is also changing; the winters are milder and not so long. Where we used to have at least five months of sleighing, eight weeks of good sleighing is now a fair average. We can raise to advantage almost any crop which can be raised in southern Wisconsin. This section has become much better known during the last few years to farmers in the southern part of this state and the neighboring states of the northwest, and they are now coming in large numbers and establishing good farms in our new north. Forty years ago, when the pioneer farmers were coming north, such conditions in this district would have been considered impossible.

I believe the nothern portion of northern Wisconsin, which today is little more developed agriculturally than the section I have spoken of, was, forty years ago, has nearly as great a future. There thousands of acres of land await the settler, with timber for their buildings and winter wood on the ground, and markets for their produce, at top prices, in the lumber camps, mining towns and lake ports near by. In the winter, hardwood timber, hemlock bark, hemlock and spruce pulp wood, railroad ties and piling, cedar poles, posts and shingle bolts, which in many places cannot now be profitably handled, will furnish work for the settler and his teams for years to come, making this season the most profitable of the year. And as the land is cleared, the climate and other unfavorable conditions will change as they have in the section first spoken of.

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With these general remarks as to what northern Wisconsin once was and what it now is, we will look more particularly to its agricultural resources.

The greatest of these is surely *dairying and stock raising.* If any country was ever naturally intended for these purposes, that country is northern Wisconsin. The first requisite, a good water supply, is there found in abundance. The geological map of the state shows 1,240 lakes in this region. There are hundreds of other small lakes, not touched by sectional lines, never seen by the govenment surveyors who platted the country. Almost all these lakes supply creeks and streams which flow to swell the rivers emptying into the Mississippi and into Lakes Michigan and Superior. Many other small streams originate in swamps and go the same way, while innumerable rivulets start from springs and contribute their portion to make most of northern Wisconsin a stockman's paradise, so far as water is concerned. Well water is also obtainable at little depth in most sections.

All over this region grasses and clover thrive. To illustrate this, we will look first at places where agricultural pursuits have never been tried. Visit the old lumber camps and logging roads all over this territory. Along these roads and among the stumps, where the trees were cleared away to keep them from falling on the camps, you will find grasses and clovers, of all varieties, growing up spontaneously. How the seed ever got so distributed is a problem. You can account for it on the tote roads where the lumbermen hauled in their supplies of hay, but it is wonderful the way it has spread over the logging roads and clearings. It seems to follow as naturally as a second growth of timber. A great many lumbermen turn their horses out to pasture along these old roads and clearings, after the winter's logs are put in.

Last spring I was up in towns 43 and 44, range 2 east, about twenty miles south of Hurley. Here the grass and clover around these clearings were equal to any I have seen in the best parts of Marathon county. There wasn't a farm within ten miles. I was told that Hurley people cut the hay every fall;

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it was theirs for the cutting. Way up in Douglas county I saw the same conditions last year. For two weeks last July I stopped with a farmer in Price county, in town 38, range 3 east. He homesteaded there seventeen years ago, and for years was the only settler. They were haying while I was there, a field of some fifteen acres, which had been seeded twelve years and had never been broken, although it had been manured. They got over a ton and a half of hay to the acre. This was hardwood land; no other could stand such treatment. All varieties of clover appear to do equally well up north. With the exception of alfalfa, they certainly do. Alfalfa has not been geneally introduced. The first I knew of in my home county was two years ago. A number of farmers grow it now and express themselves as well pleased with it. Clover and grass never winter kill with us, nor does drought affect our pastures and crops as it does in the regions further south. There has never been anything approaching a crop failure from this cause. For one thing, our rainfall is more evenly distributed and possibly greater; but I believe another cause may be found in the fact that we have a rock bottom in most of this territory, which retains a great deal of moisture, which, in a limestone or sandstone coutry, seeps away. Water is reached by digging at from 12 to 20 feet, where you strike the rock. Almost everywhere in the hardwood districts the clay loam is underlaid with clay beds that extend down to the soil water. These clay beds are not impervious, and by capillary attraction, water is drawn through them from below and in a measure the plant growth is thus supplied with water during the dry season; hence grazing holds out during the mid-summer season, as it does not in a country where the soil is underlaid with gravel beds. It seems to be a generally accepted idea that our pasture season is a good deal shorter than that of southern Wisconsin. I believe this is a mistake, so far as the southern portion of northern Wisconcin is concerned. There is really very little difference in climate. The atmosphere is dryer in winter and the cold and wind are not felt as they are in the open country south of us. On November 12th last I drove several Fond du Lac and

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Green Lake county farmers over a part of Marathon county. Everywhere we went they wondered to see the cattle feeding on good pasturage. They had little idea of the country, but what surprised them most was the good pasturage. They told me their pastures had given out some time before.

Oats and barley, very necessary crops for a dairy and stock country, are among our best crops. I will speak of them more fully later on. All root crops do well clear to the northern limits of the state. Pumpkins, squashes, and vegetables of that kind are also a sure crop, as are flint and forage corn.

So we have all the essentials for a great dairy country; water in abundance, the best of pasturage and winter feed. During the past six years more and more attention has been paid to dairying and all through our southern district creameries have been put in, many of them on the co-operative plan. All are paying investments and a great source of education to our farmers. Wherever located, they have spurred the farmers on to better methods of farming and to an improvement and enlargement of their cattle herds.

To show how the co-operative creameries are working, I have the figures of the amount of butter manufactured in the four months of April, May, June, and July, 1900 and 1901, in four Marathon county creameries. For these months, in 1900, 62,501 pounds of butter were manufactured; in 1901, the record was 100,447 pounds. I took these months because they were the only ones for which I had the figures for all these ceameries. The first co-operative creamery built in our county was in 1898. We now have about fifteen. At first none of them ran during the winter months; today, a number run the year round and the output is continually increasing. What is true of Marathon is true, I understand, of a number of the counties in this southern belt. Cheese factories are not so numerous, although a few have already established a name for their products. In 1895 Prof. Henry predicted that northern Wisconsin would rank as one of the greatest cheese centers in America, if not in the world. He based this prediction largely on the pure cold water supply in which we excel the districts

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further south, while at the same time we have all the other requirements, which they have, for a cheese country. He says further, "while southern Minnesota, southern Wisconsin, northern Illinois and Iowa will remain the great centers of butter production for this country, these districts cannot hope to compete with northern Wisconsin in the quality of cheese which may be poduced there, for the reason that in this great butter region the summer days are hot and the water which the cows must drink becomes quite warm; these conditions shut this region out forever from entering into serious competition with our new north in the manufacture of cheese of the highest grade." I do not dare set myself up against such a high authority as Prof. Henry, but from what expert butter buyers tell me about our home butter, I think we are going to join you southerners and become a part of "the great center of butter production." More of our farmer boys will have to attend the agricultural school at Madison before we can hope to be annexed to this center.

Stock raising for beef requires corn in addition to the crops spoken of as requisite for a dairy country. We have always raised flint corn with success as far back as I can remember, but it is only in recent years that our farmers have realized that they could raise dent corn to advantage. However, for a number of years the successful growers of this product have increased. Three years ago at the state fair I had several varieties of this corn from Marathon county. One day I found my wife, who was helping me look after the exhibit, ready to fight with a southern Wisconsin famer, who accused her of packing the caucus, by importing this corn. He said he had been in northern Wisconsin and they had stumps there as high as the cornstalks were, but he knew they never raised that corn there. Some of this disputed corn came from the farm of W. H. and S. M. Quaw, of Wausau, and they have had good crops of it for the past three years, to my knowledge. I have here a few ears of this corn grown last year. They planted nineteen acres and harvested over 2,000 bushel baskets of ear corn. The land it grew on is the mixed clay and sand soil.

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An old Milwaukee county farmer pacified my wife by telling her that when he came to that county dent corn was considered an impossible crop. The problem seems to be to get the proper varieties and then to stick to them. The southern part of the district I am speaking of is in the same latitude as the great Shorthorn breeding district of Ontario, Canada. I think I am safe in predicting a future beef region here.

My article is lengthening out, so I will be brief in considering the question of *sheep* and *swine*. Much of our cut-over lands are peculiarly adapted to sheep raising, and recently, in a great many sections, sheep have been imported in large numbers. The state agricultural college has been largely instrumental in bringing this matter to the front, and there is no doubt as to a successful result.

The dent corn question has a close relation to the raising of swine, but the possibilities in this line are not to be compared with the dairy, cattle and sheep propositions.

Field crops.—As before stated, oats and barley are staples. Forty bushels of oats to the acre has been the average in Marathon county the past two years, on all classes of farm land, and in counties in the southern belt spoken of, where there are hardwood lands, this average should hold up. I rank barley, as almost as profitable a crop as oats, although not nearly so largely grown, rye ranking next. While some of our farmers raise good crops of wheat, I do not believe it is a good crop to tie to.

Peas and beans are a good crop but not largely grown, except for the home market.

Root crops I have already spoken of. Our northern Wisconsin sweet corn should not be overlooked. It is a well known fact that the farther north sweet corn can be raised the better the flavor is. It is a sure crop and cannery men can get the raw material up north.

Fruit.—Small fuits grow wild all over northern Wisconsin. When the Michigan and southern Wisconsin crop of strawberries plays out, the people in this southern belt get the fresh berries from the home growers. The supply is increasing, but

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as yet does not equal the home demand. In a few years you will see the Milwaukee and Chicago markets furnished with northern Wisconsin strawberries for three weeks after the southern crop is only a peserved memory. Last year at the state fair my county showed 43 varieties of apples, about 20 of crabs, and 11 of plums. While Wisconsin is not an apple state, certain parts of our northern district are going to show as good apple crops as our southern Wisconsin neighbors. We need home grown stock and varieties tried and found proper for our climate. Our best orchards are found where the land has a north slope and the sun cannot start the sap too early. Trees in such orchards do not winter kill. Wood county, which is geographically in the southern half of the state, would protest at being classed anywhere except with northern Wisconsin. This county furnishes a large part of the Wisconsin cranberry output.

Waupaca and Portage counties make us all think of potatoes. There potato raising is a business in itself. This crop grows from one end of the state to the other. On some of our lighter soils it is the best cop raised. I have with me some potatoes, grown by Fred Davis, at Mercer, Iron county. He raised 600 bushels on sand land and sold nearly all his crop to lumbermen, who took the potatoes direct from him at an average of 80 cents a bushel. He started to plant May 15th, and was at it a month, working at odd times. The crop was dug in September and October, and he had no trouble with frost.

Perhaps you may think I have pictured the promised land with the exception of the honey, and northern Wisconsin bees funish this abundantly from our splendid clover fields and basswood groves. But remember, I started out by calling your attention to the different classes of land, and I don't want you to forget the poor lands. There never was a country without some poor lands. To my mind, some of the write-ups of northern Wisconsin hurt the country; some flowery ones I have seen could well be applied to the Garden of Eden. They make one think of the copyrighted wedding notice, where the bride is al-

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ways "one of our city's handsomest and most accomplished daughters."

If you look at our country from the car windows, remember the railroads usually run along the sandy river bottoms, and where they do run through good land, they have generally set fire to it and left a waste of charred trees, so uninviting that it is usuall the last to be settled and cleared up.

A settler should not buy any land without seeing it, or having a trusted person see it for him. There are now no more free homes to be found on our western prairie lands, and northern Wisconsin offers the best home the settler can find for the money asked. We are in the same latitude as northern New York, New Hampshire and Vermont. With the exception of beech, we have the same timber they had in their forests, but we have not the rough, mountainous surface which characterized their timber region.

The farmers of Marathon county, who came there with nothing but good health and determination, have $700,000 on deposit in the Wausau banks. It may seem hard work clearing up a timber country, but patient industry is here always well rewarded. In the new north is a diversity of well paid labor for each season of the year, and abundance of cheap building material not found in prairie regions. The result is a healthy, vigorous people, with good homes, and farms rapidly increasing in value—conditions which must produce sturdy, industrious and liberty-loving citizens.

DISCUSSION.

Mr. True: Before other people get waked up to the discussion of this question, I wish to say that I see in this valuable paper more, perhaps, than the average member of the audience. I am in receipt every week of more or less letters from different parts of the United States and Canada, asking just such questions as Mr. Wright's paper answers fully and intelligently.

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I see in the report which we shall print next year, and which will embody this paper and the discussion that may follow, one of the best answers that it is possible for me to give to the many correspondents who have asked information upon this and other subjects. Therefore, I perhaps show more interest in the paper than the casual listener. And I want to say in this connection, that while our audience may seem to be thin, we have in mind, back of this meeting, the report which we are going to make and which will be published for gratuitous distribution next year.

Prof. Weidman: During the last four years I have had occasion to go over a great deal of this country which Mr. Wright has described as the southern part of northern Wisconsin, including Marathon and Wood counties, and the geological soils are very similar to the soil of southwestern Rock county. Those soils belong to the old drift formation. This region, that is, the southern part of northern Wisconsin, has probably the same kind of soil that we have in the southern part of the state around Beloit. I do not think this is generally understood. Of course there is a slight difference in the fact that the underlying rock in Rock county is largely limestone, while in the northern section it is of a crystalline character. There is a difference also in the climate and the rainfall.

Mr. Wright: I found in preparing my article that it was hard to make this question of the soil clear within any reasonable limit. We have some parts of northern Wisconsin, as St. Coix county, where the formation is limestone. In my part of the state there is no such thing as hard water. In Dodge county they all have to have cisterns to get soft water. There is no hard water at all in Marathon, Lincoln and Langlade counties. I am often asked what land is worth and what kind of soil we have in our county. In all of these counties, I think almost without exception, you will find all kinds of soil. You will find the finest kind of hardwood lands and a nice, rich clay soil, and then you will find it will run off into a swamp, and then there will be a town covered with jack pine, making

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about the poorest land we have. It is only good to work on to gradually by manuring.

Mr. Chamberlain: The gentleman spoke about its being a great dairy country. Do you think it would be a first rate place for a young man to go to raise draft horses and some of the beef beeds of cattle?

Mr. Wright: I think it would, Mr. Chamberlain. Our pastures cannot be beaten; our water supply cannot be beaten. The only thing is the dent corn. I understand that to raise beef cattle you have to raise dent corn to round them off with. Some of our farmers raise dent corn. At the Marathon county asylum this year they raised sixty acres, and I have here some of the dent corn they raised. Three years ago there was not a herd of pure bred cattle in our county, and after taking the matter up with our farmers' association, we hired herds of shorthorns and red-polled cattle to come up there to show our farmers what could be done. Some of our wealthy men are ging into the cattle business. We have three herds of red polls in our county and each owner is planning to beat the other at the fair next year. We have two fine herds of shorthorn cattle, and there is Mr. Rietbrock with his Guernseys. Mr. Rietbrock is taking a great deal of interest in the matter. He sold a registered yearling bull for $300 to a farmer there, and he has twelve more. He won't sell outside of Marathon county. Mr. Walter Alexander and Mr. B. F. McMillan are going into Aberdeen-Angus breeds. They have now the nucleus for their herds.

Mr. Chamberlain: One reason why I asked the question was this: There is a young man who worked for me two years and now has some money. He went into that country and came back entirely discouraged. My idea was that if he would take horses and cattle and take a large tract of that land, supposing it was covered with stumps, and not try to get out the stumps entirely, just get out enough to put in his barns and have a good well, he might do well.

Mr. Wright: I think the young man was salted as a number of others have been. He was probably shown some district where the land was very poor. I am always sorry when I hear

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of a man buying that kind of a farm. He always goes back disgusted and it hurts the country. These speculators want to sell whatever they have. They often find men who will pay top prices for very poor farms.

Mr. McKerrow: I have traveled a good deal in the stock-breeding district of Canada, where the best short-horn herds and the best draft horses in Canada or anywhere else in this country, are raised. They grow corn there some, but when I first went there fifteen years ago they grew no corn, and yet they rounded out their draft horses and cattle in good shape with such feed as they did grow, oats, peas, beans, barley, etc. They began to buy some corn to mix with these feeds. They are putting in cereals up there now and growing more of the early corn. I saw many good crops of corn in northern Wisconsin last season. I think your young man, Mr. Chamberlain, was discouraged by the stumps and possibly getting in with men that showed the poorer lands.

Mr. Chamberlain: I would not take such land to clear as a gift. My idea was not to clear it off, but to use it as grass land.

Mr. True: Mr. Wright, can you give us any idea of the cost per acre of clearing by the use of dynamite, etc.?

Mr. Wright: That depends very much upon the character of the stumps. Hardwood land will not cost so much because the stumps will rot. In a very few years by clearing it a man is really paying for his farm. I know a man, a Washington county farmer, who bought a farm near Marathon City in 1898. He paid $12,000 for eleven forties. There were 60 or 70 acres cleared and very good farm buildings. The first year that he was there he and his boys took off enough timber from part of the timber land to half pay the purchase price of the farm, and you could not buy it today,—I do not believe he would sell that farm for $60 to $75 an acre. In two or three years these hardwood stumps will rot out. Of course, with pine stumps you have to use a stump puller. They have stump pullers now that will get them out much easier than they used to.

Mr. Everett: Does the Angora goat do much good work in northern Wisconsin?

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Mr. Wright: That is something I cannot tell you. They have a good many over toward Eau Claire I have been told, and one man in our county has shipped in over 100 and others have picked up a few. They have only just come into our vicinity.

Mr. McKerrow: If you will look up the last Institute bulletin you will see what they are doing in Dunn county. Professor Carlyle has seen that work.

Professor Carlyle: All that I saw of the work of the goats was reported in the last Institute bulletin,—the work that they were doing on Mr. Hall's farm near Knapp. Last September I spent a couple of hours at Mr. Hall's farm, looking over some work which 250 goats and kids had been doing on a small piece of land, which Mr. Hall had fenced in. Just outside the fence was one of the roughest places I had ever seen in the way of brush, weeds and briars of all sorts. You could not walk through it. And the place where the goats had been pasturing, some thirty days I think, was just as clean of everything that was eatable as you can imagine. The briars had all been trimmed off leaving their stumps sticking out and the small brush had been trimmed down. I was surprised at the size of the small brush and stumps that these goats had been able tochew off. The elm trees had been peeled up so high I could not reach to the point where the bark was loose. Everything possible to eat except the grass had been cleared off. The grass was growing, it had not been growing there when the goats were turned in. The grass had started up as soon as it had a chance.

Mr. McKerrow: Didn't those fellows stand up on their hind legs?

Prof. Carlyle: Yes, the old bucks got up on their hind legs and pulled down the branches with their paws and the young ones would stand around and eat them off. A good many suckers grow up around the stumps and some of the goats would get on the old stumps, jump astride and bear down the suckers while the rest would eat off the buds and leaves.

Mr. McKerrow: Mr. True and I will substantiate that statement, and Mr. True knows more about it than I do.

Question: How do the goats look?

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Prof. Carlyle: I was surprised at the thrift of those goats. They were in just as good, if not better, condition than those we have been running on blue grass pasture at the university farm.

Mr. Everett: I am glad that Prof. Carlyle has said what he has on this subject, because we get a good many reports from northern Wisconsin farmers, letters on the conditions that exist there, and a good many maintain that the Angora got is a very valuable animal for northern Wisconsin in clearing up the brush economically so as to let in the sunlight. It believe it is a profitable animal for clearing up the brush land.

Prof. Carlyle: There is one feature that Mr. Hall spoke of in discussing the matter. That was to caution peope to have exceptionally good fences to keep them in. If you do not, they will run all over the whole country side and browse a little here and there and not do it up thoroughly. Mr. Hall has come to the conclusion that it is necessary to confine them closely in the plot that is to be cleared,—put them on a small plot at a time, and he finds that it is necessary to have a very good fence. They will climb over any ordinary fence, and any wire fence that they can get their head through is a regular trap for them. The first fence he put up he found fastened a good many of the goats. They could not get their heads out. In putting up a fence of that character have the uprights wide apart. A good many people in building a fence for goats will have the uprights close. It is the worst kind because the horns catch. If you have the uprights quite a distance apart he can turn his head to one side. So the upright wires or bars should be wide apart and the horizontal bars close enough so he cannot get his body through.

Mr. McKerrow: I think I can substantiate this: At one of our summer institutes last year in northern Wisconsin, they were discussing the goat. One of the German farmers in the audience stood up and said: "We want no goat. He is one devil. Where you want him, there he is not. Where you do not want him, there he is."

Mr. Wright: I have been told by some of our farmers who

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have put two or three of these goats in with the sheep that they are first class to keep dogs away from the sheep.

Prof. Carlyle: I will give you our experience in this line. We took two cattle dogs which were up at the farm and tried to set them onto a Billy-goat in the paddock. Both dogs started to attack him, but they could not get near him. I would not be afraid to turn any dog in with that goat.

Prof. Henry: What would the goat do?

Prof. Carlyle: He would stand back and try to attack the dogs with his horns. Those goats can move a little quicker than any dog I ever saw.

Mr. Ames: How many goats to the acre and for what length of time did it take to clear that land?

Prof. Carlyle: That is given in the report.

Mr. Ames: I would like to ask to what extent do the enemies of sheep in the shape of animals affect that industry in the north?

Mr. Wright: Not at all, nothing but dogs. The sheep browse in the woods a great deal, way up where there is the heaviest timber we have. I never saw a wolf or a wild cat. I have seen tracks once in a while.

With your permission, Mr. Chairman, I would like to say a word more on this point of the cost of clearing. There are tracts there which have been contracted to be cleared for as low as $4 per acre. This was originally thickly timbered land. The timber was cut ten years ago and consequently the stumps are rotten. Another tract in Marathon county has been contracted to be cleared for $15, owing to the amount of timber that was left on; and another tract in the immediate neighborhood for $25. The price varies according to the tract that is to be cleared.

Mr. McKerrow: If it were heavy white pine the same land would cost much more for clearing?

Mr. Wright: A great deal more.

Mr. Ames: On these pine lands is not poplar brush inclined to grow, and to what extent will that develop?

Mr. Wright: Oh, no. They sometimes get to be two or

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NORTHERN WISCONSIN HOME, MARATHON COUNTY.

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three inches through. The fires often run through and kill them down. There does not seem to be as much there as there used to be.

Mr. McKerrow: Which is the more valuable, land that has been burned or land that has never been burned?

Mr. Wright: I do not think there is any difference, unless it kills the timber that the farmer depends upon for wood. I would not be able to say agriculturally which would be the best.

Mr. True: Is there not an advantage in this burning, in the way of clearing up the land? Does it aid in getting rid of the tops, etc., of the timber?

Mr. Wright: Oh, yes, certainly. If fires go through once or twice it does away with a great deal of that. The lumbermen generally fire a piece after cutting it over, as there would not be danger of fire spreading.

Prof. Henry: I would like to take the time of the gentlemen here for a few minutes.

Northern Wisconsin has some very poor land. Some of those lands belong to the United States government, some to the counties and some to the state. For a long time we have been talking about forestry in Wisconsin. I have had it in mind at all times but I have not seen an opportunity previous to this time to make a move for forestry advancement which might prove successful. I think now we have an opportunity to make a beginning. I wish to tell you of it briefly.

There is a bill pending in congress, introduced by Mr. Grosvenor, known as the "Mining Bill." It provides that the government shall, out of the sales of public lands, appropriate moneys annually to the several states of the union primarily for mining engineering purposes; that it shall go to the agricultural and mechanical colleges,—in this case, to our state university. This amout is placed at $10,000 for the first year, the second year $11,000 and the third year $12,000, and so on until it shall amount to $20,000 annually, and shall continue at that sum. The states having received this legacy shall direct where it is to go. This money may be used for educational and investiga-

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tional purposes along the lines of mining, road-making, engineering, irrigation, forestry, etc. If the bill becomes a law, I wish to ask the legislature to give to the college of agriculture two-fifths of the sum provided by the bill now pending, which at first would amount to $4,000 annually, and it would gradually creep up until it would amount to $8,000 annually. If we could get this, I would like to use every dollar of it for forestry,—not spend some on irrigation, some of road-making, etc., thus dividing our energies. I would like to see the legislature hold for the state, or turn over to the state university, all of the lands in northern Wisconsin now owned by the state, which a special commission, apoointed fo the pupose, may say are not suitable for agriculture. I do not believe in letting people with limited means buy up the poorest sorts of land and eek out an existence. Let the commission pick out the suitable and valuable lands and set them aside for agriculture, and set aside the poor lands for forestry.

I would like, with your permission, to introduce the following resolution, which I hope you will favor:

Whereas, there is now pending in congress bill H. R. 8735 proposing to use a portion of the proceeds of the sales of the public lands to provide the agricultural and mechanical colleges of the country with increased means for instruction in mining, road-making, forestry, irrigation, etc.

Resolved, that in the judgment of this convention, the proceeds of the sales of the public lands can wisely and propely be used for such purposes, since these lands are the common property of the whole people and the purposes to which the money will be applied are likewise for the benefit of all.

Resolved, that the secretary of this association be instructed to transmit a certified copy of these resolutions to each of our senators and representatives in congress.

Upon motion, duly seconded, the above resolution was unanimously adopted.

The Chairman: This brings us to the third and last topic upon the forenoon program,—"Lessons from the Drought of

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1901," by Mr. Convey, of Ridgeway, whom I now introduce to you.

Mr. Convey: I have not attempted to treat all the features of this subject, having left some of them to be taken up in the discussion.

LESSONS FROM THE DROUGHT OF 1901.

By THOMAS CONVEY, Ridgeway.

Wisconsin has not suffered as seriously from the drought as some of her neighbors; yet it has been the most serious the state has ever known. In 1895, in a smaller portion of the state, the conditions were nearly as bad in light crops, but in 1901 the area was very much larger, and where supplies have to be purchased this year, the price is nearly twice as high as then. Crops have been fairly good in the northern third of the state, rather light in the central third, but people there are selling not buying; but in the southern third of the state the people are buying, and at the highest average prices they have ever paid. Crops in the latter district will not aveage better than 50 per cent. of the usual one. This district contains more than one-half of the population and taxable property of the state. More than three-fourths of what would be produced in the district in a good year is consumed there. Stock has been sold off close. A great deal of money has already been paid out for feed-stuffs, but much more will be spent during the next three months. How can such conditions be guarded against in the future?

There is no assurance of better conditions next year. The subsoil is extremely dry and the water supply much lower now than then. Pastures have been almost grubbed out and tramped to death; even the meadows have been pastured close to save winter feed. We have been borrowing from the future and will have to pay interest and principal.

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But I am not here to tell you things you already know and feel bad about. Even this dry year some people have obtained much better results than others, and this can be more profitably discussed.

Cultivation has much to do with retention of moisture, and much moisture wasted by careless methods. With sufficient water in the subsoil good grain crops can be produced with little summer rainfall. For small grain, fall plowing or its equivalent (a clean cornfield prepared as if it were fall plowing) gives best results. But the first thing we should do in the spring when the ground is sufficiently dry, is to harrow or pulverize the surface to prevent the escape of moisture. This also prevents the crusty or lumpy condition of the soil and kills early weeds. After a heavy rain the same work may have to be done over again, but it will pay to do it.

Fall grain, harrowed in the spring with a sharp, perpendicular-toothed harrow, will give infinitely better results. This is a good time and manner of getting in grass seed.

Spring plowing is better done as early as possible, but in every case, unless the ground is extremely wet, it should be harrowed, not planked or rolled, close after the plow. This not only retains moisture, but more good will be done by a single harrowing to get land in proper condition than could be done by twice the labor a little later.

When will the manufacturers learn to manufacture and their patrons learn to use tools built upon the correct principles? Can anyone explain why cultivator spoons, especially wide ones, should be run at right angles with the line of draft, wasting from 25 per cent. to 50 per cent. of the power, and producing an open, lumpy and uneven condition of the soil, just the reverse of what we want, and yet taking so much more power. A good cultivator should have the following qualities: perfect adjustability as to depthh; should stir all of the soil, and leave an even, finely pulverized surface.

Prepare the soil as deeply as the quality of it will admit. Deeply prepared soil will take up and hold a heavy rainfall, while in shallow preparation there is danger of surface washing.

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With most of our crops shallow cultivation gives the best results, not more than two inches; three would be better to retain moisture, but too much root pruning would be done at that depth. Deep cultivation forces the root growth below the richest part of the soil and where the conditions are all unfavorable, —a more compact soil, giving more resistance to root growth. Deep cultivation of a growing crop means more labor and poorer results, and, in the corn crop, will delay maturity about two weeks, and usually, though not always, causes a smaller yield, but always of an inferior quality because of an excess of water contents.

The harrow with upright tooth and the weeder, when rightly used, are among the best of cultivators.

Dry seasons are not without some compensating qualities. They compel us to follow better methods. They compel us to cut and feed corn stover and thereby learn that, acre for acre, it has more feeding value than hay.

We learn by soiling that we can get from three to five times more food value out of a crop by hand-feeding it; also that stacking hay, fodder, or even straw outside will detract from its feeding value from 25 per cent. to 33 per cent. Lumber is high with little prospect of becoming lower priced, but foods are becoming too high-priced in Wisconsin to submit to such large annual losses from exposure, which loss is largely in the lessened degree of digestibility.

Comfortable quarters are absolutely necessary to economical feeding. Everybody admits this in dairying. It holds true just the same with all kinds of stock, even with fat steers. This matter has been tested in experiment station work, and in every case comfortable housing has given the best results.

Many people are inclined to salt feed heavily in mow, or stack, thinking it will preserve the feed in better condition. I consider it a bad practice. It helps the palatability, but compels stock to drink excessive quantities of water and the bad effects are easily observed in the spring.

Too much high-priced feed is being fed to low grade, low quality animals. We have heard about the poor cows often and

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all the time, but how about the low quality beef animal? More than 90 per cent. of this class of animals sell for less than one-half of the best prices prevailing in the general market. This is a Wisconsin condition. This is the problem of the dual purpose cow as worked out by the farmer. He want a little more milk and butter and introduces dairy blood, a little more beef or better steers, and tries something else. The result is that both cows and steers are kept at a loss, or barely pay expenses. There may be a dual purpose cow, but who has a herd of them? What line of breeding produces them? Where can you get the sire you want for this purpose? Some agricultural speakers and writers are like professional politicians,—they would rather be popular than right. The dual purpose cow should be classed with the general purpose horse, the combined reaper and mower, and things of that kind.

Our first dry season was in 1886. Since then we have had one year of excessive summer rainfall (1892). The almost complete removal of timber in the southern part of the state has, without a question, produced unfavorable conditions,—little summer rainfall, severe storms, hot winds and light snowfall. Hot winds are not produced here, but they are deprived of the power of doing mischief in a timber country.

A most valuable experience is found in the 18th annual report of the State Experiment Station. I refer to the irrigation experiment, where irrigation trebled the yield of hay, more than doubled the yield of corn, and almost doubled the yield of potatoes. Prof. King estimates that a 20-acre farm with a single irrigating plant can be made to produce as much as a sixty acre farm without one. There have been many cases the past season where a well could be sunk, tower and windmill erected, and the entire plant paid for in the increased yield for the past season. This was especially true of small fruit and truck gardening, also of potatoes.

All indications point to dry seasons,—springs and wells dry up, creeks either dried up or reduced in volume fully one-half. Of course, there is no danger of a famine, especially in human foods. This country with its population of about 25 persons to

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the square miles does not have the problem to encounter that Japan would, with a population of 280 to the square mile.

DISCUSSION.

Mr. Convey: There are several things that I have not discussed in my paper. One is the necessity of winter application of manure. The main reason for this is that in order to get the benefit from the manure it has to be leached out. With the spring application you do not have the leaching out. Hence, I consider it is absolutely necessary that it be put on the ground early, just as it is produced on the farm, and the fertility allowed to leach into the soil. You will incur less waste of labor. I think it will give the best results in grass land. This grass land may be used for producing a corn crop.

Mr. True: There is a question which has excited a good deal of comment; that is, the stage of growth of the corn plant when it is most severely affected by drought. Last year a good many fields had developed the tassel, which seemed to have dried up. The question was, whether such a stalk would afterwards develop an ear. Did you notice that?

Mr. Convey: It was a common occurrence throughout the southern part of the state, and I think in very many cases the stalk failed to produce an ear. The failure has been largely on the early crop. There were many blanks this year in the corn crop.

Mr. True: The best ears grew on those stalks that had not developed the tassel. The best yield was from the later fields that had not been prematurely developed by the extremely hot wave.

Mr. Roberts: Do you advocate the use of a manure spreader and also the winter application of manure? Can you use a manure spreader in the winter season?

Mr. Convey: I have not used one. It is because of the class of manure we produce. The manure from our stables is such that there would doubtless be loss by leakage, and I am try-

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ing to find out what likelihood there would be of loss in that way. If the spreader is satisfactory in that respect, then I can see no reason why we should not use manure spreaders. We want it evenly distributed, and it would be much better to distribute it over a greater area and have it more even; we would get better results.

Mr. Everett: What has the "dual purpose cow" to do with this subject of "Lessons"?

Mr. Convey: It has a whole lot to do. All over the state farmers have tried to get high returns from low grade cows, have become disgusted and let the cows go dry. Many farmers in this state are feeding steers that they will get only two or three dollars a hundred for.

Mr. Roberts: I did not get a satisfactory answer as to whether the manure spreader would work in the winter season.

Mr. Convey: In order to get good service you would have to keep it in the house so it would not freeze up. The manure must come from the stables to the field, it must not get into frozen lumps. The only reason that I have not used one is that I have feared it would allow the liquid of the manure to leak out. In feeding ensilage the liquid is not all absorbed by the solids, and in that case it would leak.

Mr. McKerrow: In the early spring you can drag before you begin to work your land.

Mr. Roberts: We have done that a great many years.

Mr. Convey: Do you think you get the manure as evenly spread as you would like?

Mr. Roberts: Not with a hired man,—the average hired man. I think I can do it myself as well as these manure spreaders. They will slip when it gets wet and in the winter. I think that is the trouble.

Prof. Carlyle: On our farm at Stanley we use a manure spreader all the time, winter as well. We have deep snow, and we have no difficulty in using it all through the winter, for the reason that we use a good deal of bedding. The use of the manure spreader in winter depends upon the character and the amount of bedding you use. If you do not use much bedding,

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you will find great difficulty in handling it, because the manure freezes so solid it will not work. If you use a great deal of bedding, so that the manure does not freeze, you can use the spreader all through the winter with excellent results. We never have any difficulty with slipping, the snow is usually so deep and soft. On a hard road it would probably slide.

Mr. McKerrow: Do you have any trouble in the summer?

Prof. Carlyle: I have not noticed any.

Mr. Convey: It is a common complaint among farmers that, in a season like this, if you run over a lump, it will slip. They recommend corrugations on the outside wheels to guard against this slipping.

Question: I would like to ask if there is any difficulty in putting manure on the ground evenly with the spreader on a windy day. We experienced some trouble during the past summer in using the spreaders,—we found it difficult to do much on a windy day.

Prof. Carlyle: You will find that the case with fine manure. Our horse manure is mixed with shavings and it is as fine as powder. After our cow barn manure gets rotted it will blow away. With the ordinary farm manure as it is used I think there is no trouble.

Mr. Convey: You will experience the same difficulty in spreading in any other way. I remember fifteen years ago in the southern part of Wisconsin in nearly every field you would find small piles of manure dropped to spread. We do not find any now. You go up north and it is a common occurrence up there yet.

I would like to call your attention to the advantage of raising certain crops in dry seasons. The past season quite a number of people undertook to raise wheat and oats and in nearly every case they got better results from the mixture. We have tried peas and oats for a number of wears and have found it a very valuable combination. About once in five years you will have a failure. The wheat and oat crop should receive more encouragement if we are going to have the dry weather we have had. It is a dry weather crop. While wheat does

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not show as great a protein content as oats, yet it contains more nutrients. This is largely due to the fact that the carbohydrates are more largely digested in the wheat than in the oat plant. For that reason I think we might sow wheat and oats together.

Mr. McKerrow: For thirty years we have grown most of our wheat and oats combined. We have had the best average crops of any in our township by measure, and a good deal better by weight. We are satisfied that it is as good, and a little better, pound for pound, than the oats alone. It is a better crop to seed down with because it usually stands up better. We have sown pure oats side by side with it and have found the mixture to stand up better.

Mr. True: Mr. Convey, how much importance would you attach, in a dry season, or in a prospective dry season, to forage crop planting for the purpose of helping out the pasture, or perhaps for curing? That will be a very vital question the coming year.

Mr. Convey: You can sow the rape plant for several classes of stock and get good results; sow at intervals during the summer season; and provision should be made for an early corn crop, early sweet corn, for instance, will furnish about the first feed in the corn line that we can get. In every case we should aim to furnish extra feed. We need extra feed in the early part of the season, when the stock are turned on grass, or the quality of the milk will depreciate very materially. In other words, we do not have the material in the grass to make the proper quality of milk, and a little extra feed tends to not only simply keep the stock in good condition, but it improves the quality of the milk very materially as well. Formerly we depended upon grain. Now it is too high. Just as soon as we can get anything to feed, it pays to feed it. Feed during the principal part of the summer.

Mr. Faville: This preparation for the dry season should be made the year before, not wait until it has come. Suppose it is as dry next year as it was last year and the spring before, you would need your soiling crop. But there has never been

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a season since I have been in Wisconsin (fifty-eight years) but that some part of the season something would grow. The latter part of this last season the late corn crop matured to make a good silage crop. My plan is (and I am quite positive that it is the very best one) to put in silage to carry us over the dry season. When the dry season comes early, we have the silage. If it does not come until July and August, we have the silage. A year ago last summer it was the dryest in June and July. We did not have any pasture. I went out to Jefferson county to see my nephew, who had a large dairy and was milking sixty cows. I supposed I would find him with his face as long as your arm. I found him smiling, and when I said, "You must be having a hard time with this large stock of cattle," he answered, "I have an abundance of feed to carry me through May and June—through this dry season—never had them do better." He had silage to give them, all they needed. This suggestion I wan to make: that every man depending upon stock should lay in a sufficient stock of ensilage to carry him through. He cannot do it in any other way so cheaply and surely. With your grass you do not need to take it out. It is just like the ladies' canned fruit when the strawberries anr ripe.

Mr. Convey: We fed last year silage from August until June. This year we started in in September and will feed it as long as it lasts.

Mr. McKerrow: If it had not been for ensilage and the five-acre piece of alfalfa that we had last summer, we would have gone out of the stock business. That carried us through in good shape and very cheaply. I never found so much value in the silo as I did last summer from the middle of last June to the first of September.

Mr. Convey, have you had any experience with alfalfa as a soiling crop.

Mr. Convey: I have not.

Mr. McKerrow. It is comparatively new, but I know a few who had pretty good satisfaction last summer. I guess Gov. Hoard was one. I think it was the third crop that was pretty good, and the previous crops were also good. In our own case,

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as were as poorly fitted for growing alfalfa as anyone in the state, yet a five-acre plot last summer paid us enough so that we can afford to experiment if we only get such a crop from the third. I do not think we will be very successful on our hard-pan subsoil. But I think that every farmer in the state should put in a half acre of this product, to experiment with at least. Sow it on a rich piece of ground very early in the spring, either with no other crop or with oats or barley that you can clip off later. Clip back often. Every time you see a blighted leaf on it, run your mower over it and cut it back. The next year cut before it comes to blossoming. When it is three or four years old it is better than when it is a year old. Its most dangerous time is when it is young.

Mr. True: Do you consider, Mr. McKerrow, that it is as safe against winter-killing as the ordinary red clover?

Mr. McKerrow: Yes, just as safe. Our alfalfa has not winter-killed as badly as the clover, although it has winter-killed some.

Mr. Faville: It will stand the winters better than the ordinary red clover and it will stand the drought very much better.

Mr. McKerrow: Last summer was the dryest we ever experienced in Waukesha county. Our clover made no second growth to speak of, but we cut a part of our alfalfa three times, with a heavy crop the first time.

Mr. Wright: Is the alfalfa identical with the Lucerne?

Mr. McKerrow: Yes, just the same thing.

Mr. Wright: I think some of those old Germans have had it for a long while. They call it "Lucerne."

Mr. McKerrow: I imagine, Mr. Wright, on a great deal of your soil in Marathon county it would thrive well.

A Visitor: Where I live in New York, there is a piece of alfalfa that I know has been cut nine or ten years and they have cut three crops a year. I put in a few acres myself last spring and I am going to keep on until I get ten or fifteen acres if it goes well with us. Speaking of silos: with us, a good many do not dare to depend on our pastures at all. We let our stock

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run and we feed eleven months in the year. If we have plenty of feed we do not feed so much silage. If we do not have feed, we feed silage. I supposed it was all silo out here, where we get our good literature from. I spent two days in South Bend, Indiana, and I never heard anything about the silo, except one man who advocated silage and corn meal. I asked him if he had not better put his money into cotton-seed meal. Before he got through, he said that when his silage was too rich with corn, he took a horse-rake and raked the corn out of the ensilage and fed it to his hogs. I wrote home to my boys that I wished they would rake some of the corn out of the ensilage and go to feeding it to the hogs, because I had learned about it and it was something new. He was the only man that said anything about the silo down there.

Mr. Convey: In Illinois, a man proposed to balance up a forty pound ensilage ration with oat straw, corn fodder and five pounds of clover hay and get sixty-five dollars net returns on ten or twelve cows with that class of feed. That paper has been quoted in several agricultural papers.

Question: What kind of cows?

Mr. Convey: He had dairy cows.

Mr. Jones: What variety of alfalfa do you sow, Mr. McKerrow?

Mr. McKerrow: We have not had any large experience, but we have sown the Turkestan,—fifteen to twenty pounds to the acre. I have had only a limited experience and a little observation in Canada on the same kind of soil we have. My friend in Canada has made a success of it. I believe that while we need a good stand of alfalfa, we do not want it too thick, for my friend tells me that the alfalfa plant that gets a thick root quickly in the first wo or three years and goes very deep is the plant that does the best. We do not want too many small roots. On a good, even seedbed twenty pounds is enough. Mr. Cook, of New York, says thirty. He wants it thick, he says. On our hard subsoil I would rather have less roots and have them good, big ones. Of course, when you come to break it up, you will swear a little more if the roots are big.

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Mr. Convey: I think the rape plant should be discussed at this meeting in order to get it into the report. I would like to hear from Prof. Carlyle or Prof. Henry, or some of those people who have a better knowledge of it. The people of this state are taking an active interest in the growth of rape and get good results from it. I think it has a place in Wisconsin agriculure more extensively than in the past.

Prof. Henry: Mr. President, Prof. Carlyle has had direct charge of that work. I can say that the Wisconsin Experiment Station learned of rape through the Canadian Agricultural College, when I saw the crop growing in 1890. We began to grow it in 91, and in 93 published our first report on rape growing. It had been grown on the University farm before 1880, but not to any large extent. We introduced it in 1891 from Canada. Rape should be grown upon every farm. It is a splendid feed for pigs, for sheep and for cattle. It is especially useful with young stock if you wish to have them go into winter quarters in good, thrifty condition. Have a plat of rape for them to run on. Do not grow less clover, but grow more rape. For dairy cows, Mr. Carlyle thinks it is useful, but it must be used carefully, not feeding just before milking, and not feeding while the plants are immature or after they are badly frozen in the fall. We can feed rape profitably for heifers and bulls and steers. For sheep it is the feed *par excellence*. Mr. Carlyle can tell you of the results with pigs. It is a great help to the pig feeder.

We have been pushing the growth of the rape plant in Wisconsin as hard as we knew how. If some agent had sold rape seed at six or seven dollars per pound, the use of rape might have spread faster than it has with the Experiment Station's endorsement. We are more interested to have somebody tell us that we can make a thousand dollars an acre on some new plant in order to get us interested so that possibly we can make ten o fifteen dollars, which is a fair profit. I know that most of the farmers in this room are familiar with rape and its advantages and do not need to listen to exaggerated statements. Mr. Carlyle will tell you of the pig-feeding experiments.

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Prof. Carlyle: The full details of the work of pig feeding and the resume of it are given in this years annual report, now being issued from the Experiment Station. There you will get the results of the experimental work which has been carried on the past eight or ten years,—the average results from the feeding of pigs. We found that an acre of rape would save in grain, mixed grain,—say, corn and middlings—from 1,50J to 2,100 pounds of grain, in feeding pigs for market. One acre of average rape will save from 1500 to 2,100 pounds of grain. You see, it is worth saving. We find it especially valuable in the spring of the year for young pigs with their dams.

Just as early as possible, in some dry spot on the farm, we put in probably a quarter of an acre of rape in drills. It comes on slowly and in about four weeks at most it is ready so we can turn in the sows with the young pigs. It is interesting and amusing to see the little fellows revel. The rape certainly has a wonderful influence on the milking qualities of the sow. About three weeks later,—from two to three weeks later,—we put in another small plot, three in succession. We have fed it to dairy cows, but the cattle are not quite so greedy for it as the sheep.

For sheep we consider rape very valuable. Those of you who have had sheep will know something of the rape plant. It is very valuable in the late fall for feeding breeding ewes. But care must be exercised in feeding both cattle and sheep late the last plot has been eaten off, the first plot has grown up again. We go through with the cultivator and stir up the soil and the rape grows again from the root, and those three plots, averaging one acre, will be sufficient for ten to eighteen brood sows. We the past two years, but our results are not such that we can as yet make any positive statements.

As a soiling crop we have found the rape will give a larger return in tons per acre than any other crop we have. We get thee tons an acre of the green rape.

The dairy experts did not seem to notice any difference between the milk which we sent and the milk which the rest of the farmers sent. We began very lightly, however, and gradu-

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ally increased the amount fed. The first time the rape is fed you can smell it in the milk, but after the cow becomes accustomed to it, thee does not seem to be any trouble in this way. Cows do not like immature rape, neither do sheep. It is better to feed on the mature rape. For cows, especially, it should obtained in that way.

Nothing has been said as yet concerning sorghum. Last year we had the very best results from sorghum. Dry, hot weather is just right for it. When we have a dry, hot season along in May and June, I would certainly advise putting in a crop of sorghum. Our sorghum grew last year some sixteen feet high in that hot weather. There is nothing which our cows like better than sorghum. The herdsman down in the barn insists every spring that I put in a larger and larger plot each year for the dual purpose cows.

Mr. True: Prof. Carlyle, is it practical to sow sorghum broadcast, and about how much seed would you put to the acre?

Prof. Carlyle: Last year we carried on a small experiment. We sowed sorphum with a drill, an ordinary grain drill, and in one plot allowed all the spouts to run. With every spout running we put in about 25 pounds per acre, "Minnesota Early Amber." The next plot we put in about 50 pounds per acre. Then we put in 25 pounds to the acre with every drill running, and 25 pounds with every other drill running. We found that the thickly sow sorghum gave us the kind that the cows liked best if we let it grow longer than the others. It took it longer to develop and get to the state where the cows liked it. Early in its life the cows do not like it. After it begins to form sugar the cows enjoy the stalks. I should recommend sowing with a drill, if possible, and let every other spout run. You will get an earlier crop and fully as much per acre, and the amount of seed is about 30 pounds.

Mr. Faville: How do you harvest it?

Prof. Carlyle: By cutting, as we do corn. Usually we cut it with a sickle or corn knife.

Mr. True: Do you consider it impracticable to sow it thickly enough enough to cut with a mower?

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Prof. Carlyle: I would not expect in that way to get so palatable a food. We find that the cows do not like it unless it is pretty well matured, unless it is sweet. I think that is the eason whv many farmers have not been in favor of it. It grew too thickly and did not get as much sweetness in it and the cows did not like it.

Mr. Convey: The question has often been asked of the institute workers: Can you sow rape in the fall as late as would be necessary after taking the early corn cop off? Would you get growth enough to justify you?

Prof. Carlyle: It would depend very much upon the season. Last year you would not have gotten rape to germinate at all. If after a heavy feeding crop, such as oats or corn, that has taken a large amount of moisture out of the soil, you would find it difficult to get very much of a catch. It requires much moisture and the soil has been depleted by the preceding crop.

Mr. Convey: I know parties who have sowed rape at the last cultivation and got good results in that way.

Prof. Carlyle: That is a good way.

Mr. McKerrow: Back in 1880 we began to grow this rape. I imported some and paid at the ate of 70 or 80 cents a pound for seed. Prof. Craig brought it when he first came to the Agricultural college. I am heartily in favor of rape, but I do want to drop a few words of warning about some phases of this matter. In the first place, most of the seedsmen advise sowing five or six pounds of seed to the acre. To my mind that is altogether too much, because the plants are so thick that they do not mature soon enough to give you the most value. Two or three pounds are enough.

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AFTERNOON SESSION.

February 6.

The Chairman: The first topic upon the program this afternoon is "The Farmer's Cow," to be presented by Prof. E. H. Farrington of our Agricultural College, whom I take pleasure in introducing to you.

Prof. Farrington: Mr. President, Ladies and Gentlemen of the Convention: I am very much afraid that the paper which I have written will not interest this audience very much, because I think the gentlemen here assembled do not keep the kind of cows that I have reference to. However, as I have written the paper, I shall proceed to read it, hoping that you may be somewhat interested.

THE FARMER'S COW.

In discussing this important part of the dairy industry, I wish to make it plain at the beginning that I am not the champion of any particular breed of cows; my knowledge of the different strains or types of dairy cows is not sufficient for me to enlarge on the advantages of a long-horned cow over a Shorthorn, neither do I pretend to say that a Guernsey, a Jersey, a Holstein or an Ayrshire is the best cow for a farmer to keep. My information on the cow question is confined to observations made at some of the ninety-five farms that are supplying milk to the Wisconsin Dairy School.

In visiting these farms in the past seven years I have not attempted to train myself so that I might become sufficiently expert to tell a farmer all about the different cows in his herd by simply looking them over while sitting in a buggy on the highway, but my efforts have all been directed towards trying to induce the farmer to keep a record of what his cows are doing. This it seems to me is going to help him, and I am afraid if I ever tried to discuss the points of a cow with a

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farmer that I would be in the plight of the professor of agriculture who was once talking with a young lady and she suddenly turned on him and asked: "Professor, can you tell a good cow?" The professor without any hesitation replied, "Why, yes, I think I can." "Then what would you tell her?" said the young lady. I did not wait to hear the rest of this interesting conversation, but without further delay I wish to say that my position on the cow question is expressed in the text, "By their fruits ye shall know them." If a cow gives milk and butter enough in a year to pay for her keep and a profit besides, she is worth telling something of a story about; but if her food costs more than her milk is worth then the less told about he the better; but it is encouraging, however, once in a while to hear someone tell about an unprofitable cow that has been disposed of and to know that such an animal is no longer being bought and sold among farmers.

The lack of any exact knowledge regarding the annual production of each cow in a farmer's herd is in some cases rather surprising. It often happens that the cows are milked and fed in the same routine way every year, and if the check from the creamery or cheese factory is not large enough to suit the patron—and it never is—then a great many complaints are heard about the price of butter or the cost of feed, and very little, if any, effort is made to find out whether or not the cows are what they should be.

An illustration or two will serve to show the extent to which some farmers make an effort to think, or how well informed they are about their cows and other business affairs. I once asked a farmer who was bringing milk to the creamery, what breed of cows he kept and he said: "Oh, I don't know; I guess they are Poland China cows." Another farmer who was drawing his own and some of the neighbors' milk to the factory came to see me one day about the price he was receiving for his work. He said he had come to the conclusion that he could not afford to make the trip unless he was paid a dollar and a half a day; I asked him what he was getting and he said he didn't know, but it wasn't enough. I looked up the record

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showing how much he had received for several months, and found from his own creamery checks that he had been paid $1.75 per day for drawing in milk. This was twenty-five cents more than he said he wanted, but he had not taken the trouble to find out how much he was receiving before he came in to make his complaint and demand for $1.50 per day.

It is too often the case that farmers keep no records whatever and do not have the slightest idea as to where they are at. They look at the amount of their creamery or cheese factory check without thinking that the size of their cows and their own size are responsible for the size of their monthly check. Many of them talk like a woman I met on the street December 23d. As I passed her I said, "Good morning, Mrs. Blank, I suppose you are out buying Christmas presents this morning." "No," she said, "It's too hard times to buy Christmas presents this year; the creamery don't pay enough for the milk." Now, that woman keeps nine cows, and the creamery paid her about $250.00 in a year for the milk she sent to it. This is between $25.00 and $30.00 per cow per year that she received, and she never once thinks that it is the cow's fault or her own fault that she does not get more money, but, according to her own way of thinking,—and there are others that are of the same opinion—the fault lies in the price of butter, the creamery management or hard times.

There is such a tendency in human nature "to look out and not in," as the Sunday school teacher used to tell us; to think that the causes of our hard lot are all outside our own dooryard instead of in it, that we are sometimes helped by being reminded that a little investigation at home may be a profitable undertaking. This sort of inquiry would be very helpful to many farmers if they can be led to realize what a difference there is in the earning capacity of the cows in their own herds and then be induced to part with those that eat more than they produce, then the price of butter and "hard times" will not be continually worrying them. There's nothing like the inspiration of playing a winning game to make us forget our troubles,

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and this being true, the most cheerful dairyman ought to be the one who knows the most about his cows.

It was with the hope of helping the farmers and of illustrating the conditions of some dairy herds to the dairy interests of the state that we undertook some four years ago to begin testing the cows of the patrons supplying milk to the Wisconsin Dairy School. These patrons keep cows and deliver the milk to the factory in the same way as is customary at the creameries and cheese factories throughout the state. They do note have large herds and it was observed during the past year that the cows owned by one hundred of them were probably similar to the one million in the state. Only eight out of one hundred patrons kept more than twenty cows and thirty-five owned from two to five cows only. This shows that the majority of our patrons do not pretend to be dairymen in the sense of making the production of milk a serious business and I fear that there are many other farmers in so-called dairy districts who do not allow the cows to make much of an impression on their minds; other lines of farming crowd the cows out so that they receive only a little attention at milking time.

During the past years we have, like other creameries, urged our patrons to take samples of each cow's milk and allow us to test them, as this will aid in obtaining definite knowledge of the amount of milk and butter each cow produces. The patron's usual reply to these suggestions is that he "supposes it would be a good plan to test his cows," or he plainly states that it is too much bother to take samples. He is either so much attached to his cows that he does not care to part with any of them even if it is proved that some cows do not produce milk enough in a year to pay for their feed, or he seems to think that he knows enough about his cows without having their milk tested. No one of our patrons during the past seven years has voluntarily brought samples of milk to us for any length of time with the request that we test them for him. This indifference to an exact knowledge of the profit or loss from cows is common among farmers, and on account of it they suffer annually very large financial losses. It is therefore plain that the possessor of such a disposition is

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as worthy a subject for investigation as are the cows he owns; the hopes of convincing our patrons that cow records are valuable led to a systematic testing of a number of herds in August, 1897, which investigation has been continued up to the present time.

In preparation for these tests we had boxes made for carrying four-ounce sample bottles of milk from the farms to our creamery. Small books in which might be recorded the weight of each cow's milk once a week, and accurate weighing scales were also provided. We offer this outfit to our patrons and agreed to test all samples they would send us if they were taken for one day at regular intervals of one, two or four weeks during the year.

Some patrons inquired how much we would pay them for the extra work of weighing each cow's milk once a week and this suggestion proved to be the only way in which we could get the work started, so we finally agreed to pay $1.00 per cow to such patrons as would weigh and sample the milk of each cow in their herds at least once a month for one year. Even this inducement did not make much impression on the patrons, and we were able to test six herds only the first year, beginning August 1st, 1897. These tests included the weighing, sampling and testing of the milk of forty cows once every week through one complete period of lactation; eleven more cows were tested for a part of the year. Since that time the testing of patrons' herds has continued. During the year beginning April last, 1899, sixty-two cows on nine farms were tested through one complete period of lactation and fifty-four cows for only part of the year. The following year fifty cows on six farms were tested, and up to the present time 217 cows on thirteen of our patrons' farm have been tested. These tests represent 135 complete and 98 partial periods of lactation. The cows in three herds were tested for three years consecutively and four other herds were tested for two consecutive years.

During the first year of testing the milk of each cow was weighed and tested once each week, but it was impossible to get this done so often after the first year. Some patrons were willing to weigh and sample the milk of each cow once in two weeks

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and others could be induced to do this "extra work" once a month.

The results obtained by this three years of testing have shown that farmers may gain a great deal of useful information by such work, and that it is one of the most profitable fields for careful observations in the whole domain of agriculture.

A description of our methods of making the tests and some of the results obtained may be of interest to our creamery patrons.

Method of Making the Farm Test. The milk of each cow was weighed and sampled at the morning and night milking one day in each week, every two weeks or once a month as the patron desired. The testing day was selected by the patron.

Each dairy was supplied with a pair of scales for weighing the milk, a box of bottles for milk samples, a small 1-ounce tin sampling dipper and a record book. Each cow was given a numbe which was also placed on the label of a 2-ounce sample bottle, the cow being known by this number throughout the test. About one-half gram of potassium bichromate was added to each sample bottle to keep the milk sweet until tested. The box of samples and the record book were sent to the university creamery where the samples were tested; the tests were recorded in the patron's book as well as in the permanent record at the creamery, after which the book and box of sample bottles were returned to the farm.

The following instructions were plainly written on the first few pages of the record book sent with each box of sampling bottles:

Directions.

1. Give each cow a permanent name or number.
2. Provide a place for using the scales at milking time.
3. Select a milk-weighing paid or bucket.
4. Record the weight of this empty pail or provide some sure way of deducting its weight from each lot of milk.
5. After milking a cow dry, pour all her milk into the weighing pail.

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6. Record the weight of this milk in the proper place in the book.

7. Pour milk from weighing pail into milking bucket and immediately dip a sample from it into a bottle having the number of this cow.

8. The sample from the first milking should only fill the bottle one-half full.

9. At the next milking repeat the weighing and sampling and pour the second sample into the same bottle that was previously half filled.

10. Cork the sample bottles to prevent evaporation.

11. Weigh and sample the milk of each cow once, twice or four times per month.

12. Note time of each milking.

13. Record the date each cow calves.

14. State how many days each calf was fed its mother's milk.

15. How did you dispose of each calf?

16. Weekly statement of cow's feed, including the weight, price and kind of grain, if any, with the amount and kind of hay, cornstalks or other coarse fodder.

17. Health of cows.

18. Note any change of milkers.

19. Record date when cow was dry.

One farmer, with twelve cows, estimated that fifteen minutes' extra time was required to weigh, sample and record the milk of his cows on testing days. At another place the records were taken by a boy who was too young to milk but capable of doing the extra work required at milking time on testing day. At one farm this work was done by the women, who strongly objected to it, especially when it was necesssary to use a lantern at the barn in winter.

Accuracy of the Records. The accuracy of such records as these is necessarily influenced by conditions common to nearly all farms. Milking is usually done with more or less haste, especially at the planting; haying or harvesting seasons. The milkers as a rule are not accustomed to the use of scales and often consider a weight within one pound of the true figure to be

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"near enough." They do not understand the necessity of promptness in sampling milk after it has been poured from one pail to another before the cream has begun to separate. In spite of these and other disturbing factors, our results show that tests of dairy cows can be made by the farmers themselves with sufficient accuracy to give a very satisfactory knowledge of the performance of each cow.

From these weights and samples taken at the farm the total annual production of a cow is found by multiplying the average of the daily weights of milk and of butter fat taken each month by the number of days in the month and adding the products together. The money value of the milk of each cow is found by multiplying the monthly weight of butter fat by a certain figure which, during the year ending August 1, 1898, was one-half cent less than the average Elgin market price of butter fat for that month; in 1900 and 1901 it was the average Elgin price.[1] The figures obtained for each month were added together to the production for a year.

Feed and Care of Herds. The cows at each farm were fed and cared for during the entire year according to the usual practice of their owners. As far as we could ascertain, all the cows at one farm were fed in the same way. No attempt was made to vary the feed of each cow, excepting that where grain feeding was practiced it was usually stopped while a cow was giving little or no milk.

At farm C the owner kept a careful record of all grain bought and fed to his cows during 1898. His estimate of this feed is given below:

[1] These are the prices which the creamery paid all its patrons for milk.

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Expenses.		
[1]Grain bought during year		$130 00
30 acres corn stalks, $2.00 per acre		60 00
10 tons hay, $5.00 per ton		50 00
10 acres good pasturage and 15 acres woodland		65 00
Total cost of feed		$355 00

Receipts.		
Received for milk at creamery	$572 00	
Sold 12 calves at $5.50	66 00	
	$638 00	
60,000 lbs. skim milk, 10 cts. per 100 lbs.	60 00	
Receipts exceed feed cost		343 00
	$698 00	$698 00

This shows that the estimated cost of food at farm C was nearly $30.00 per cow and the average receipts per cow were a little over $58.00. Assuming that the manure will pay for the care of a cow, the owner of this herd received an average profit of $28.00 per cow.

Each cow at this farm was fed about the same amount of grain and hay during the period of stable feeding, November 1 to May 1. The grain was fed dry just before milking, 10 to 14 pounds per head being fed per day to cows in milk. Hay was fed the last thing at night after milking. During daytime the cows were turned into a sheltered yard where they wer fed cornstalks that had been stacked neath the barn at husking time. The cornstalks were well eaten, and it is probable that the cows satisfied their differences in appetite on cornstalks, if, as stated, each one was given the same amount of hay and grain. The cows had access to well water during the entire year and were in pasture from May to November. When cows were fresh the calf was allowed to have its mother's milk for about three weeks when it was sold for veal.

[1]The grain feed consists of corn and oats ground together, corn meal and bran, or about 15 tons of grain at $12.00 per ton.

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No exact feeding records could be obtained, except at this farm; at the other farm corn, bran or shorts, ground oats, pasture grass and a very little hay were fed in uncertain quantities, and apparently with no definite plan. At one farm no money was spent for feed during the year, but the corn and oats raised at home supplied all the grain the cows received, except that some oats were exchanged for bran to give the cows a variety of food.

Although there was quite a contrast in the feeding and management at the different farms, the method of weighing and testing the milk of each cow was the same in each case.

The tests are, of course, more valuable to the owners of the herds than to anyone else, but some illustrations of general interest may be drawn from them.

The cows on one farm were tested for three years. The average receipts per cow in 1898, from the creamery, were $36.30, in 1900, $39.20, and in 1901, $38.92. In 1898 seven of the twelve cows produced less than the average of the herd; in 1900 seven of the eleven were below the average, and in 1901 there were six cows under the average production of the herd. The figures do not show much indication that the owner has profited much by the tests. The cows that did not produce enough milk to pay a profit on their feed were kept in the herd for three years, and five oter cows produced less than $30.00 worth of butter in a year.

The annual production of the mature cows during the three years shows that the poor cows did not improve from year to year, but continued to give less milk than required to pay for the feed consumed. The one good cow was equally persistent in doing well. The creamery value of her milk for three years was $200.00. This is $110.00 more than the cost of her feed when we take $30.00 per year as the value of a cow's feed. The butter produced by the other five cows tested for three years amounted to only $114.00 more than the cost of their feed during the same time. The milk of one cow, therefore, paid the owner within four dollars as much profit in three years as the milk of five cows in the same herd for the same length of time.

In another herd the excess of butter over cost of food of two

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cows worth $60.00 while that of five other cows was worth only $53.00.

Thus the owner received at the creamery $2.00 less for the milk of five cows than he did for that of two cows in the same herd.

The entire herd of twelve cows owned by one farmer only paid a profit of $75.00 in a year and three of the twelve cows paid $50.00 of this amount leaving $25.00 as the combined profit of the other nine cows in the herd.

Another herd of twelve cows paid a profit of $228.00 in a year but in this herd there was one cow that earned only $3.00 profit and another that earned $31.00 profit, a difference of about 400 per cent. in the annual butter value of these two cows to their owner.

Many more startling illustrations might be given from the records of the different herds but a summary statement of the best and the poorest cows is sufficient to show the value of this kind of work to the farmer.

Table showing variations during one year in the butter value of the cows.

PATRON.	No. of cows in herd.	Creamery, total cash.	Paid average per cow.	CREAMERY VALUE OF		
				Best cow.	Poorest cow.	Average cow.
A—1898	12	$421 00	$35 11	$53 35	$28 72	$36 30
A—1900	11	405 00	36 82	82 23	20 18	39 20
A—1901	11	424 00	38 55	64 93	23 51	38 92
B—1898	5	*	.....	58 21	44 83	50 00
C—1898	12	572 00	47 70	60 72	37 96	43 83
D—1898	6	228 00	38 00	55 49	39 60	44 12
D—1900	6	.....	.....	51 28	28 40	44 42
E—1898	5	227 00	45 40	67 47	44 40	58 40
E—1900	5	.....	.....	68 16	43 47	61 20
E—1901	4	.....	.....	70 72	59 47	62 11
F—1898	9	.....	.....	60 29	34 00	.....
F—1900	7	.....	.....	58 70	31 90	44 00
G—1900	14	563 00	40 00	72 21	39 32	56 57
H—1900	8	358 00	44 75	66 03	17 23	50 00
H—1901	8	332 00	41 50	62 71	46 65	56 00
I—1901	24	.....	.....	67 85	14 56	39 00
J—1901	7	270 00	38 60	51 14	37 53	46 00
K—1900	8	293 00	37 00	54 61	22 35	39 00
K—1901	8	248 00	31 00	46 81	36 69	42 00

*Figures are not obtained because patrons did not bring milk to the creamery during the ntire year. Samples of each cow's milk were, however, tested.

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If as stated each farmer fed all his cows in the same way and the time and labor of milking and feeding the cows were approximately the same for both good and poor cows, it follows that it did not cost any more to feed the best that the poorest cows in the herd. The information furnished by such tests as these may be very valuable to the owner of the cow as her life ought to depend upon the record she makes. Previous to making the tests the owner of each cows had very little if any accurate idea of the relative value of their cows, but the records show the information gained is worth many times the cost of the milk weighing scale, the Babcock milk test and the time necessary to use them.

DISCUSSION.

Prof. Farrington: The trouble has been that the farmers do not take any interest. The trouble is with the man who owns the cows. We tried to interest the farmers in making these tests, but they often would not come in to see what the results were. I think it shows we have a great field in trying to interest the farmers in the cows they keep so that they will try to find out what each one is doing. In this particular case the farmers were not very much interested in the results. They were willing to keep the cows that did not pay any profit.

Mr. Faville: Did you pay those farmers a dollar apiece to have their cows tested?

Prof. Farrington: Yes.

Mr. Faville: I should not expect much of a man that had to be hired to do that.

Prof. Farrington: I think we ought to interest the farmers just the same.

Mr. True: Do you think that class of farmers did not really want to know what their cows were doing? Don't you think they were afraid of the results that would be shown?

Prof. Farrington: I think this paper does not belong in this meeting. I do not think any such farmers are here present.

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Mr. Cockrell: It was my privilege to visit Mr. Hill's herd of Guernseys at Rosendale. I was so favorably impressed with his dairy that I went home enthusiastic about dairying. I persuaded my father to buy a Babcock tester and he did so. We had a herd of 17 cows and last spring, when the cows commenced to come in, we commenced to test them and weigh their milk. We kept this up for four months. We had two cows out of the seventeen that were producing two pounds of butter a day. I believe five others were producing about a pound and a quarter and the rest were somewhat lighter. Perhaps I represent the average farmer better than I do anything else, and I feel that I am amply repaid for keeping the record of the cows for that short period of time,—only four months. In the future I hope we will keep the record for the year. I think that many farmers have found out its advantages. There were about a dozen that bought Babcock testers in our neighborhood after we had ours.

Prof. Farrington: Different cows in different herds vary. Some cows give a large quantity of milk which is not rich. There is no uniform relation between the quantity and the quality.

Question: On an average, would you have to have a cow with a good flow of milk to get good returns?

Prof. Farrington: Yes.

Question: It would have to be exceedingly rich in order to pay $75 or $80?

Prof. Farrington: Yes.

Mr. Wilson: What were the extremes of the tests?

Prof. Farrington: They varied all the way from 3.5 per cent. to 4.8 per cent. Of course, the tests of the separate samples each week would go higher than that. But the average test through one period of lactation would not go ever 4.8 and some as low as 3.5.

Mr. McKerrow: I was talking a few weeks ago with one of the leading breeders of beef cattle. He said: "You have a young man in Wisconsin whom I consider, for his age, a leader among our beef cattle men in the United States today." I now

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take pleasure in introducing to you this young man, and you will please remember that he is a young man,—Mr. F. W. Harding.

Mr. Harding: Mr. Chairman, Ladies and Gentlemen: This is a compliment which I am sure I do not measure up to, but I think we know Mr. McKerrow sometimes exaggerates in these matters. I have only been able to give this matter a little time, and all I can hope is that the shortness of my paper will commend itself to you.

SHORTHORN TENDENCIES AS SHOWN AT THE INTERNATIONAL.

This was the grandest show of Shorthorn cattle ever gotten together in this country, and perhaps the best seen in the world.

An animal here that was able to win an eighth prize was in many cases a close second to the first prize animal, so even in quality were the entries that landed inside the money.

This topic having been assigned to me, rather than being one of my own selecting, I can construe the subject as allowing Shorthorn tendencies at the International to mean several things.

One is the tendency, or I might safely say the complete success of the Shorthorn in being the chief attraction of the cattle show.

This was evident from noting where the largest crowd was to be seen at ringsides where the judging of the various breeds was going on, as well as around the animals at the stalls, and in the sale pavillion, where Shorthorns made the highest average of the week.

We Shorthorn breeders naturally refer with pride to such matters as these, nevertheless we concede that there are other breeds that are all right in their place, and filling good places too.

Our beef breed shows, where the Blacks, White Faces, and the Red White and Roans join under one head, and each shows what the breed can do, are unquestionably an important step in the right direction.

We are not at war with each other; it is the scrub we are

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scalp hunting, and we will get more scalps by all pulling together than by dissuading the man who does not want our kind of cattle from buying a good animal of some other breed.

By keeping friends with him, we are sure to sell him a Shorthorn sooner or later, and when he is landed once, that is all that is required,—we have him.

Of course it takes good Shorthorns, as well as good anything else to accomplish best results, or in other words, to make the most money.

Now what was the tendency at the International as regards the general make-up of the winners?

We can most of us remember the time when a Shorthorn, to win a prize, had to have the appearance of a Thoroughbred; lots of style, high arched neck, fine bone, short barrel and small meal bin.

I do not say that these points were the essential requirements of the time, for a fad in pedigrees had crept in, and faddists were being catered to, but this was a general requirement in the animal conformation, that it was hard to ignore.

Now it is different: we select out the parallelograms as our best formed animals. This is a simple standard to work to,—the difficulty is to get the cattle to fit.

We need another model for the head, neck and legs. A kindly eye, in a good head, well set on a moderately short neck, is in form for nearly every good beast.

A good feeder's head is not long from the eyes to the nostrils, but almost the contrary. Eyes wide apart and well to the front side of the head, and the expession always mild and intelligent.

In a sire, a rather strong horn, if shapely, should not be an objection, for it denotes constitution and prepotency.

It is true we are not going to eat the head, but after we have this part right, lots of other big things about the animal will take care of themselves, and without a good head, we need not expect much else.

Style in a bull need not be despised, other things being satisfactory. If he holds his head well up and has a strong crest and

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SHORTHORN CHAMPIONS—STATE FAIR, 1902.

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the walk of a gentleman, good results may be expected of him as a sire.

As to legs, they are not often too long on a wide built animal.

The neck vein has hardly been covered by these descriptions. The critical judge does not let this pass him.

It is the fleshy part of the neck, forward of the shoulders, and should be full and lay well over the shoulder bone, and extend well down to the brisket, thus giving a fullness all around where the neck joins the body.

Shorthorn character is something that cannot very well be explained on paper, but it is peculiar to the breed, and is invaluable.

Thick flesh, evenly laid on, a loose hide, which denotes feeding qualities, and a soft coat of hair and plenty of it should not be considered last by any means.

I think the ribbons at the International were tied from about such a standard as I have tried to describe.

Now these tendencies in the form of the up to date Shorthorn are the result of practical object lessons in the stock yards, markets, and on the block. The breeder must get his inspiration from the man who markets his cattle, and learns what a real market topper is, and then persist in buying the pure bred animal that is likely to produce what he wants,—that which will bring him the most money.

If I were asked the question whether the butcher' or feeder's type of an animal would be considered a good breeder's type, I would say yes.

We have not been able from our experience in breeding Shorthorns to observe that this is not true.

Heavy flesh carrying Shorthorns may combine good milking qualities. This characteristic comes naturally to the breed, and it is our own fault in the selection of our breeding animals, if we do not preserve this important quality in the Shorthorn.

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DISCUSSION.

Mr. McKerrow: I do not expect this audience proposes to let you off this easy, Mr. Harding. Let us have questions.

Mr. Chamberlain: Mr. Harding spoke of the combined milking qualities in the Shorthorn.

Mr. Harding: I said it was natural to the breed.

Mr. Chamberlain: Can you propagate it by selection?. A. Yes.

Mr. Chamberlain: Do you think you can have the dairy and beef tendencies and have the best beef points?

Mr. Harding: It is true that one takes from the other, but it is possible to get sufficient milking qualities in these beef types of Shorthorns to have them properly raise their calves and accomplish the functions of a beef breed of cattle.

Mr. Chamberlain: I do not believe it is best to try to harmonize them at all. I would get every element of beef breed out of a dairy animal if I were going to make a dairy animal, and vice versa. You are indifferent as to the dairy elements. I think that explains the indifference of the farming class. I do not believe there are so many poor farmers as the paper of Prof. not believe there are so many poor farmers as the paper of Prof. Farrington would indicate. Where I am getting 300 pounds to the cow, heifers and all included, some of my neighbors are not getting more than 150, and those men are making money as fast as I am. They have their beef Shorthorns. I would advocate this. If you are going to dairy, dairy with a dairy animal, and if you are going to raise beef, raise beef with a beef animal.

Mr. McKerrow: Your statement covers the whole ground, Mr. Chamberlain.

Mr. True: Mr. President, I want to ask Mr. Harding, in consideration of what the color tendency has been in the past, if he noticed any peculiarities in the International,—if the color question was prominent?

Mr. Harding: It is true that there is very little disposition to regard color in the show-ring, if any at all. Color cuts no

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figure. So far as buying is concerned,—we can sell a roan Shorthorn bull quite as well as we can a red bull.

Mr. True: I followed this very closely at the International. It seemed to me that there was a preponderance of roans in the prize-winning animals over the solid color.

Mr. Harding: That is very true. Eight-tenths of the best winners in the first were roans. I think it might be explained that in the roan there is a blending of color that brings out the form in better shape. In some way or other the eye does not catch that quite so readily in the solid color. It is also true that the light-colored Shorthorns have the nicest heads. I think that is true.

Prof. Carlyle: I would like to have Mr. Harding clear this up: Is it true that breed Shorthorns are the most intense beef Shorthorns. To my mind, the best breed Shorthorns,—the Shorthorns that have produced the best typse are the animals that have shown strong refinement and top milking qualities. Don't you think, Mr. Harding, that the tendency at the present time is in this direction?

Mr. Harding: That was the reason that I spoke of the milking tendency in the Shorthorn. I think it is quite necessary, and we have to start properly.

Prof. Carlyle: Will you have as good an animal without having that maternal function strongly developed.

Mr. Harding: I believe we are quite satisfied that like begets like. The nearer you come to the type you want in a show-yard animal, the nearer you will follow in breeding from such an animal.

Prof. Carlyle: The point that I wanted to make was this: that the tendency on the part of judges in these leading expositions is to regard the animals as chopping block animals. They expect the females to represent the males that go on the block. I think this is a mistake.

In the human family, if a child is a male, we expect him to be robust and strong. If it is a female, we expect it to show female characteristics. And so it is with the animals.

A Member: I think Prof. Carlyle is right there. We have

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about fifty Shorthorn cows on our place, and we find that those cows that show the best milking strains produce, I believe, the best calves we have. They are the best mothers. They make show animals.

Mr. McKerrow: As I understand you, Mr. Harding, you have not the idea that you are going to make a first class dairy cow out of a Shorthorn.

Mr. Harding: No, not at all.

Mr. Faville: As I understand, Mr. Harding believes the Shorthorn should give enough milk to raise her calf in good shape.

Mr. Harding: Yes.

Mr. McKerrow: We have with us this afternoon a gentleman representing the World's Fair to be held at St. Louis in 1903,—a gentleman who a few years ago we brought into Wisconsin to talk at the Wisconsin Farmers' Institutes. We gave him a start then and he has been going ever since. Soon after that he became connected with the Omaha Exposition, later with the Pan-American at Buffalo, and now he comes to us representing the Department of Agriculture at the World's Fair at St. Louis, as its chief.

I take pleasure in introducing to you Mr. Frederick W. Taylor, of St. Louis.

Mr. Taylor: Mr. Chairman, Gentlemen: I want it understood that when I get through I am not going to be stepped onto and walked over and pulled to pieces as a Wisconsin institute worker would be. I did have the pleasure a number of years ago of working in Wisconsin, and I am very glad that I did, if what your president states is true as to the result of my having been here.

At the present time I am located in St. Louis, where I have charge of the department relating to agriculture. All of those departments are now reporting to me, although there will be one or two separations. It is the expectation that my work will be that of agriculture, including dairying and agricultural implements. And I am here simply to bring a word of greeting to you from the exposition. We are getting ready to do business

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and we hope to do business equally as well as all of those others who have given something good that they called "shows." In many espects our show will be decidely different from other expositions. It is to be an advance over anything that has ever been done. We find that the evidence shows that it is to be a pretty nice sort of a show and I do not think you, many of you, appreciate what we are really purposing to cover, and it is to emphasize this and bring it before you that I am speaking to you now.

In the first place, comparisons are never particularly agreeable, except as they demonstrate something we would not otherwise appreciate. I presume that all of us look back at the World's Fair at Chicago, with which many of us were connected in one way or another, as the standard by which to measure other expositions which are being planned. It is a very fair thing to do, because it is a concrete thing and about which we know. If I were to say to you that we are going to have the biggest think that evere happened, possibly you would not appreciate it as well wothout the figures from other expositions.

Take the buildings which are to be provided for housing the interests with which you are connected. In St. Louis there will be an average of from 25 per cent. to 40 per cent. more space available than in Chicago. This very state has got to come with from 20 per cent. to 40 per cent. more money in order to cover the space which will be assigned it, provided it comes and asks for it and is able to take care of it properly. There will be a larger amount of exhibits for each state than at any exposition heretofore. The agricultural implements and dairy products will be shown in a single building which will be 50 per cent. larger than the one in Chicago, that is, than the buildings which provided for like exhibits in Chicago. It is proposed to bring together in one enormous building, which will cover 30 acres of ground floor, with additional galleries for those exhibits, all the products of the soil and those things in which you who are here present are interested. This provision has been made because of great advance within the ten years which will have elapsed since the Fair was held in Chicago. In that time there have

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been many advancements and improvements which we did not dream would come in our lifetime. In order to show them to the people of the world, there must be adequate space, adequate provision and an adequate amount of material brought there by yourselves and those representing like interests in other states.

Perhaps you will pardon me for speaking of one or two things that do not concern the stock interests, except indirectly. It seems to me that while the live stock interests have been heretofore brought in in such a way that they have been well exhibited, in the case of many of the farm products there has been no like opportunity. If you wanted to find out all you could about corn as grown in the United States, you would have to go about from state exhibit to state exhibit and study the Wisconsin corns in one place, those of Illinois in another, and each state which produces any corn in a different place. While these state exhibits will be arranged exactly as they have been heretofore, we propose to arrange an exhibit of corn alone in a special space, to be fitted up and cared for by the Exposition itself. We propose to bring together samples of all corns from every state. The corn from Wisconsin will be shown side by side with samples that come from every other state. Not only will the varieties of corn be shown, but every product that comes from the corn,—glucose, alcohol, dextrin, mucilage, and all those products which come from the plant.

We shall try to make a corn museum, bring all of these boiled down facts together, where the products of the various states can be compared with one another. With all of these products brought together in this way, it would be a place where I think every one of the young men would like to go who are taking the course in agriculture. It would bring together a lot of facts. It is that the Exposition may be in a greater sense educational that is being undertaken and that the Exposition will itself spend money.

I was engaged for some years in talking horticulture at your farmers' institutes. I left that work and went into this circus business, this exposition work, and in leaving that teaching and taking up the other work I could see no reason why it should not

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be considered as thoroughly educational as that done in the institutes with which I was connected. I believe that there is no sufficient eason for an exposition at this time unless we can go a step further in this one than has been taken in the others; that there is scarcely any reason for holding this fair so soon after the splendid ones of the last few years unless we make an advance along this educational line. It isbecause of that desire upon the part of the Exposition that I come here to speak to you, hoping that in every part of your state your institutes may unite with us in order that we may make a strong and helpful educational feature along the line of the interests which you represent and which I, as representative of the Exposition, will have in charge there. We shall need your help and the help of all the others like you in the other states, and I trust that we shall have it.

Mr. Harding: I would like to ask Mr. Taylor if the agricultural end of this fair includes any part of the live stock department.

Mr. Taylor: The classification includes all sorts of live stock under agriculture. But there is likely to be a separation. There will be, I may safely say, a separation by which the live-stock exhibits, as such, will be handled by a separate chief. The dairy exhibits, however, and all of the live stock relating to dairying, will be treated as a portion of the dairy exhibit.

Mr. Harding: That comes under the agricultural department?

Mr. Taylor: Yes. That part of the live stock show will be under the auspices of the superintendent of the dairy department, reporting to the chief of the department of agriculture.

The Chairman: Our next topic and our last will be a paper on "Live Stock Judging at Fairs" by Prof. W. L. Carlyle.

Prof. Carlyle: Mr. President, Ladies and Gentlemen: When I was asked by the Secetary to prepare something along this line, I very readily agreed to it, because, as my good friend, Dr. Alexander, whom all the students have been becoming acquainted with, would say, "I am spouting full of the subject." In dictating the paper, my stenographer asked me how many days the convention was going to last. When she informed me

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that she had twenty pages on her note-book, I proceeded to stop right there.

I find it is half-past four o'clock, and as I have never read a paper in an agricultural meeting, and as I have one which is very lengthy, I shall not attempt to read it, especially as there are some things in it about Wisconsin state fairs, and more especially county fairs, and as I notice some of the officers of those fairs here, I will let the paper go.

LIVE STOCK AT WISCONSIN FAIRS.

The agricultural fairs of Wisconsin, whether county, district, or state, depend very largely for their success on the exhibition of live stock. The truth of this statement is so apparent that it is unnecessary to advance any proofs in support of it. Wisconsin is essentially an agricultural state, and the prosperity of our people, as a whole, is dependent very largely on the prosperity of the agricultural classes.

The proper cultivation of the soil for the growing of abundant crops, and the successful feeding, breeding, and management of the various classes of live stock are the two legs upon which permanently profitable agriculture in Wisconsin must stand and make progress. The production and marketing of the highest quality of the various classes of live stock, and the manufacture and sale of choicest dairy products are the two arms by means of which the farmers of Wisconsin must reach out and appropriate to themselves an adequate reward for their labors. Such being the case, we cannot wonder at the interest our people and moreespecial ly the farming classes, take in live stock, as they readily recognize that it by this means only that the great majority of our farmers can hope for any permanent success in their calling.

THE OBJECT OF AGRICULTURAL FAIRS.

What is the real object of the fairs held by the different agricultural societies now organized in the various counties of our

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state? (How many of the presidents, secretaries, and members of the executive committees of these societies have asked themselves this question, and after deciding it, how many of them have strenuously endeavored to accomplish that object in their annual fairs?) During the past four years it has been my privilege, as well as a part of my duties to attend a number of the county and district fairs in various parts of the state, and I must admit that he primary aim and object, in so far as the officials are concerned at least, appears to be a financial one. All the energies of the society seem to be inclined in the direction of securing attractions and concessionaries, questionable and otherwise, that will attract a crowd and swell the gate receipts. So far as I have been able to discover, very little notice is taken of the class of people in attendance and little if any thought appears to be given to the resultant effect of the fair upon the interests, the industries, and in many instances the morals, of the community where the fair is held. If, as is invariably stated in the constitution of agricultural societies, the object of holding annual fairs is the advancement of the agricultural interests of the community, why is more effort not made toward improving the educational features? Why expend practically all the energies of the society in keeping up what is termed the "fastest race track in this part of the state," and in an elaborate grand stand to be used for no other purpose than to entice people to seat themselves and idly watch a "fixed" horse-race and to cultivate the gambling instincts of our young men, when not one county fair in five in Wisconsin has even a roped ring staked off in which to exhibit the various classes of live stock shown? What is true of the county fairs is, in a measure at least, true of our own and other state fairs. Practically all of the county fairs in the various states look to their state fair as a model, and when thousands of dollars are expended in building an elaborate race track such as has been done on our Wisconsin state fair grounds, and hundreds of dollars expended annually in its proper maintenance, while the small wire enclosed yard in which all the horses from the farms and horse-breeding establishments in the state must be

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exhibited, has not even had the old dead furrows filled, and the surface is generally so rough that it is impossible to drive a carriage about in it at an ordinary road gait without danger of throwing the occupants out or seriously injuring the vehicle. Compare also, I ask you, the accommodations provided for those who witness the horse races with those provided for the farmers, their wives and their children, who wish to inspect the stock they are interested in. In the fist case, there is an official program published, a crier who announces all the events and the winners of the same, an elaborately covered and comfortably seated grand stand in which to sit and drink iced lemonade and eat peanuts, etc., between races, while in the other case, at the stock judging ring, there is not even a single chair provided for the officiating judge, no announcement whatever is made and nothing better than a wire fence for the more fortunate spectators to lean upon while the judging is in progress. With such conditions as these prevailing at our state and county fairs, fhat wonde is it that the faces are popular and that fair managers complain of lack of interest in the live stock exhibit?

A second object usually given for holding an annual fair is to encourage and foster the introduction and dissemination of improved live stock into the community. Time forbids dwelling on the adverse conditions prevailing at our fairs for the accomplishment of this object as seen from the exhibitor's standpoint, but from what has been said concerning the facilities provided for spectators for seeing and appreciating the merits of the stock exhibited, some idea of the prevailing conditions for exhibiting stock can be gathered. If the demand at present on the part of the patrons of fairs is for amusement and entertainment of side shows, acrobatic performances, balloon ascensions, and horse races, as the fair managers assert, what steps must be taken to avert their attention from these things and incline them to the more educational and elevating features of the fair? In attempting to deal with this question, I must first of all assert that after havings pent the greater part of two months each year for the past eight years in attending agricultural fairs in all parts of Wisconsin and Minnesota, I do

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not believe that the public demands so many attractions, nor so much of comic entertainment. My observation during these years has shown me that he only reason people have patronized these things is that very little effort has been made to provide any educational features and people go to the horse races and th side shows because there is nothing else to interest them during the greater part of the time spent at a fair. Very much of the blame for this condition of affairs I believe is due to the society and to the character of the men appointed as superintendents of the live stock departments. In the great majority of cases these positions are given to influential farmers and stock men often living several miles from the fair grounds, with very little time to devote to the fair at the busy season in which it is held, and very little talent for conducting the work in their department. Oftentimes these superintendents are leading exhibiors and their time and attention are largely taken up with their own exhibits of stock. I have no hesitancy in saying that I consider the position of live stock superintendent the most important in the society and should be filled by the most energetic, pushing and competent man of affairs in the community. Where the right men have had charge of these departments and conducted them at all properly, I have yet to see the fair where the judging ring would not draw as large a crowd as the grand stand and the race track.

Another feature of the exhibition of live stock that demands improvement and would perhaps add more than anything else to the success of the fair, is a proper arena for exhibiting and judging the live stock and provided with comfortable seats for the spectators. This is of as great importance to the exhibitor as it is to the spectator, since he is most anxious to make the best display possible of his stock and at a time and place where the most people will have an opportunity of seeing it. The introduction of this feature would tend greatly towards increasing the number and quality of the exhibits, as well as stimulating the interests on the part of the patrons of the fair. As now conducted, in nine cases out of ten, the judging is done in some remote corner of the fair grounds, as far as possible

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from the crowd, while the more prominent locations are all reserved for the side shows, the fakirs, and the wheels of fortune. The animals on being called out for exhibition before the judge are crowded together in some small open space, in a great many istances are not even provided with the luxury of a temporary ring constructed by driving a few stakes into the ground in a small circle and stretching a rope about them. No one knows at what time any particular class of stock is to be exhibited or judged, and the work is rushed through as rapidly as possible to give the superintendent and the clerks an opportunity to attend are races. If the object of the fair is to promote the interests of agriculture, which in Wisconsin as we have seen must be to promote the interests of live stock, why not have the stock stables located on the most central and prominent part of the grounds, and have the stables constructed at least as comfortable as those provided for the race horses? And why not have at least as good a place to exhibit the live stock and as comfortable a place for the spectators of this exhibit as is provided for those wishing to see the races and the race horses?—which all agree have been a curse rather than a blessing to the farmers of this country.

Another greatly important improvement that might be suggested in the conduct of our fairs is in the system of judging and in the kind of judges employed. As this feature is now conducted, the results are far from satisfactory to all parties concerned. In many instances little effort is made to secure a competent man as a judge for the reason that such a man cannot be obtained without some expense to the society. It is quite a common practice to pay a "starter" for the horse races all the way from ten to twenty-five dollars a day and his expenses, and yet almost every agricultural society in the state expects to secure a man competent to judge all classes of stock for from two to at most five dollars per day and his expenses. Again they endeavor to have all the judging done on one day of the fair and if possible in th early forenoon to give the epople an opportunity to see the races. So great is their hurry in this respect that judges are often times requested to pass upon

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animals without taking them from their stalls. In so far as the securing of competent judges is concerned, I would suggest that the most competent man possible be secured for each class of stock, or at most have one man that is competent to do so pass upon the merits of two classes. Very few men are competent to judge all classes in a satisfactory manner, and should not be expected to do so. As to the necessary qualifications in a judge, he should first of all have an intimate knowledge of the best types of the classes of stock he is expected to judge, and combined with this ability to explain clearly and concisely and so that all may hear, just before the judging commences, the chief characteristics and qualities of the best type in the class to be judged. If the fair is to possess any marked educational features the judges must be the educators, and by educators I do not necessarily mean teachers or professors or even graduates from an agricultural school or college, but men of knowledge combined with ability to impart that knowledge to others. Preferably the men selected for this work should be or have been a successful breeder of the class of stock he is to judge. Let him be one who has studied the breed types and has positive knowledge as to what constitutes merit in animals of that class. He should also be possessed of honesty of purpose and have the courage of his convictions. It does not matter how competent a man may be nor how thoroughly he does his work if he does not have the reputation for being thoroughly honest and straightforward, he will fail miserably in so far as giving satisfaction to the exhibitors is concerned. On the other hand, if a man is known to be absolutely honest and possessed of the courage of his convictions under all circumstances, he is sure to give better satisfaction although he man not be the most competent man. To put it differently exhibitors are always infinitely better pleased with the judge who makes many mistakes than with a much more competent man that they cannot depend upon to do the right thing when he knows it. Every decision given that is close enough to render a question probable on the part of the spectators should be made clear by the judge, and his reasons for making the decision announced

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clearly so that all may profit thereby, and no injustice be done to anyone. For this reason men of strong prejudices and those wanting in tact should not be chosen as the judge. It is not necessary or ever advisable to criticise any worthy animal not winning highest honors in the class when giving reasons for placing another above it. When the exhibitors insist on having and the fair managers secure judges chosen from men competent to do their work and following that to give clear reasons for their decisions in a tactful manner so as to give no offence to an unsuccessful exhibitor, then our fairs will begin to be educational and the judging ring will be at all times the most popular part of the fair grounds. Let there be a sufficient time given in which to do the judging and let there be a program prepared and announced stating when each class of stock shall be judged and have this program adhered to rigidly, so that the patrons of the fair may not be disappointed in seeing the classes judged that they are especially interested in.

IMPORTANCE OF CORRECT JUDGING.

In conclusion, let me add a few words on the importance of judging. Live stock exhibitions during all the past have been one of the most potent influences in the improvement of all classes of live stock. They have done more toward giving uniformity of type and quality to the different breeds and classes than all other agencies combined. Without the bringing together where they may be compared on a common ground, the best specimens of each of the different breeder's handiwork in any class of live stock, there would be a decided tendency on the part of each and every breeder to form a somewhat different type from any other breeder. Since the greatest merit any breeding animal can possess is to reproduce its own characters, the direct result of the unifromity of type and characters of all its ancestors so the greatest merit any breed can possess is to reproduce its type with unfailing regularity, a result that can only be accomplished by all the breeders working together towards the same ideal. In view of this fact it will readily

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be seen that the judges of the various breeds of live stock at the leading fairs are largely responsible for the perfection or lack of perfection of the various breed types for there can be no question as to the value, be it fictitious or otherwise, that is placed by breeders upon the animals that have been successful prize winners. The result inevitably is that the majority of the breeders of this class of stock endeavor to produce animals in their herd that are the counterpart of the most successful prize winnesr. There are very few breeders of any class of stock with sufficient strength of character and tenacity of purpose, not to mention the size of their bank account that will long continue to breed animals of a type that are not in demand. Every man, therefore ,who has the temerity to accept a position as judge of any class of live stock at the leading expositions of the country, especially if he be not one of the most successful breeders of this class, should thoroughly inform himself as to what constitutes an ideal type in the class, as determined by the majority of the most successful breeders, and the animals passed upon should be placed in their order of merit as they approach this standard. Let no judge presume to set up any ideal type that does not conform to the ideals of the best breeders.

THE IMPORTANCE OF BREED TYPE IN JUDGING LIVE STOCK.

There is apparently a wide difference of opinion prevailing among stock men generally as to what constitutes breed type in live stock. Very many, it would seem, and among them many of the leading breeders of pure-bred stock take it for granted that the term breed-type refers only to the socalled fancy points of an animal, such as the shape of the horn and the color of the skin in cattle, the size and carriage of the ear and the covering of the face and legs with wool in sheep, the action or the carriage of the head and tail in horses, or the color markings and the drooping or up-right positions of the ears in swine. What is really meant by breed-type in any animal of any distinct breed is the possession by that animal of all the characteristics of the breed, and refers even more to those points

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which have a definite value than to those of a fancy character, though both ae to be carefully considered. For instance, all good dairy animals, no matter what the breed, possess long, very deep, and fairly broad bodies, indicating good constitution, excellent digestion and assimilation of food. They are light in their forequarters, sharp on their backs and possessed of a long slim clean-cut neck and fine head with prominent eyes indicating a lack of beef-marking proclivities and a tendency to transfrom all their energies into milk production. They have well-formed udders of fine quality, numerous prominent and long milk veins terminating in numerous large and clearly defined orifices where the veins return into the body, indicating an abundant elaboration of milk of good quality. These are the essentials in all good dairy animals and many prominent dairymen are of the opinion that these characteristics and these only with the possible exception of some minor details that are always associated with them should be the standard by which all breeds of dairy cattle should be judged. Again Shropshire sheep are characterized by short broad heads, with short fine ears, and a face and legs exceptionally well covered with wool of fine quality containing no black fibers. Many breeders of Shropshires believe that their favorites should be judged from these points largely and that little if any consideration should be given to a straight, and level, well fleshed back, a good spring of ribs, and a well developed hind quarter, all of which indicate good mutton qualities. If judges are chosen at our fairs with these ideas, it would not be long before the beautiful fawn-like Jersey type so eminently adapted for a special sphere in life would be so merged into the strong robust deep feeding and deep milking Holstein type that both these estimable breeds would lose their distinct characteristics that so peculiarly adapt them to certain conditions and environments. Judges must of course prefer animals of breed type, but they should be very sure that the type includes all the characteristics of the breed and not merely a few fancy points nor in the other extreme those leading characteristics that are common to all breeds of the same class.

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DISCUSSION.

Mr. True: I wish Professor Carlyle would talk to some of the city patrons of our state fair. I have no criticism to make of the true merits of the Professor's argument. It is a good one. A fair, to be of value to the people, must be educational. But it does seem as though there must be a process of education among the people before they come to the fair, because we really cannot, as we find them coming to the fair, convert them to the true doctrine which the Professor holds up. We do meet a class of people that come for a different purpose than that which he contends is the proper one, and which we acknowledge. We propose, if we shall be so fortunate as to have the professor judge the horses again next year, to take him right down in front of the grand stand on that new half-mile track, and where all these people who come can sit in the grand stand and witness the fine display of horses upon that new half-mile track, which will certainly be superior to anything I have ever seen at any fair in the country.

Prof. Carlyle: I wish to announce that I have an engagement for the State Fair week.

Mr. Rountree: I have attended state fairs and come away disgusted simply because the judging was rushed through with and was over before I got there. It seems to me there might be printed programs,—it might be printed on the program when the judging would be done.

Mr. True seems to think they must favor the city people in the way of state and county fairs. Now, it is impossible to run a fair of any kind without harmony. Let it be advertised when this judging will be done and there will be no trouble about the patrons from the country, and the city people as well.

Mr. True: Mr. President: We like criticism of the proper kind and we will try to profit by it. We do not want to be misrepresented. We issue some ten thousand State Fair premium lists every year. In these you will find the full programs of the judging of the live stock classes. We adhere to these pro-

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grams very closely. If you will read the program you will see at what hour in the day each class of live stock will be shown in the ring.

Prof. Carlyle: I have attended during the past eight years a number of the leading fairs of the country and I have found that the Wisconsin State Fair is ahead of any of the others in this respect. I must say that; that they adhere more rigidly to the program as printed. They have printed a program for the past two years and have adhered to it more rigidly than any of the others. You can tell about the work better than at any other. It is sometimes hard to have the judges do the work when we want it and the exhibitors are not always ready. I do not think it is impossible, however. The judges ought to be made to do it, and the can be.

Mr. Perry: I have happened to be at the head of a small fair, and I am listening to these remarks.. I think there have been some made by which we can profit. We wrote some letters to Mr. Carlyle to get him for our fair, but as we have been undertaking to run out the State Fair, holding ours the same week, he could not come. I want to say one word in justification of this horse business. I am not a horseman, but I want to say in justification of that feature,—we get that attraction to the fair without as much expense as many other attractions. I think Mr. True could explain that. Our horse race has cost us but very little. I have been interested in this fair for many years,—as boy and man for the last 35 or 40 years, and we have tried various things, but the horse race has seemed to be the winner.

Prof. Carlyle: I would ask, Mr. Perry, what you get up your races for? What object do they subserve? What good do they do to the community? Do they comply with the stated object of the fair, or benefit the agricultural community?

Mr. Perry: I do not feel competent to answer such a question as that. If you want to exclude horse-racing as a whole, I am with you. We won't make any fight on that. I have never got a quarter out of a horse race. But if you are going to have attractions of this nature you will find nothing better,

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Prof. Carlyle: I would like to ask the president, who has had occasion to visit some of the leading fairs of the old country, as to what attractions they hold out there. They certainly have the leading, most profitable fairs in England at the present time, fairs that have done the most good to the live stock interest. I would like to ask what concessions there are and what attractions are provided at those fairs. Let us learn of some of the other countries which have made a success.

Mr. McKerrow: In answer I will say that the best educational fairs that I ever visited were half a dozen of England's leading fairs,—the County, the Royal and the District fairs. They had no attractions such as we term them in this country,—no horseraces of any kind; no fakirs on the grounds. As you approached the grounds of an English fair you would be very apt to see, in some open space, outside of the grounds, some fakirs catching the unwary as they went in. But on the inside there was nothing of this kind. Upon the particular day of the stock judging you would have to pay double the fee to get in. Where all the judging was done the first day, you could get in for half price the second day. Where the stock was being judged you would find a large number of people (they stood up), gentlemen and their wives and daughters, all standing around for hours watching the Shorthorns, the Herefords, the Lincolns, and the improved breeds of swine,—studying and discussing the different animals and hoping that certain animals would win. The only attraction that we might call an attraction was where they were judging the hunters, making them jump the hurdles. But you would find more people around the horses, the cattle and the sheep than where the hunters were doing the jumping. The English people were educated up to this standard, and in the sense of live stock shows, the English shows were a success.

I have had a little experience in shows myself. I began at thirteen years of age and never have missed a year. I have seen all the evils which Prof. Carlyle points out, because I have been educated to look through the same glasses that he looks through, and I have had a little bit of connection with some of

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the fairs in this state. I remember that when I was on the county board of management in Waukesha county, I insisted then that we ought to make our fair more educational. I found that the horsemen paid in a good deal by their large entries,—the entries and the 40% from the state went a long way. I argued that by getting good judges to judge the stock, and at the time of judging give the reasons for placing the awards, it would bring more people around those rings desiring education in that line.

Now, let me say a word in behalf of the State Board of Agriculture. I think our board take the same view of this matter as Professor Carlyle. I know that a year ago, when we asked the legislature of the State of Wisconsin for means to make the State Fair more complete along the lines which Prof. Carlyle has suggested, one of the items asked for was the building of suitable pavilions in which to judge live stock, where we might be seated and under cover. We only asked for some five thousand dollars to build these pavilions, but we did not get it. Professor, you had not educated the legislature.

Professor Carlyle: I was educating the people to instruct the legislature next year.

Mr. McKerrow: If you educate enough of the people along that line, the time will come when the legislature will help. The position you take, Prof. Carlyle, is right without any question. If we are going to make these fairs educational, we must educate in that way. It takes money to run a fair. Some of us have been up against that proposition, and we have found this: we cannot draw the city people without some horse trotting; but I would say that we often have too many, often have too much money centered in them. We must have money to run a fair and we must get it in a legitimate way, and I wish we could keep fakirs outside of our fair grounds the same as in England. Personally, I am inclined to think that it would really be to the benefit of the State Fair to shut out all those we term fakirs. But the state and county board is made up of many men of many minds, and we cannot always agree.

Mr. Rietbrock: I was thinking that if not so much space

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were occupied nor attention given to the things not properly belonging to an agricultural show, if they were put in the background, or outside of the grounds altogether, and an effort were made to bring out a regular agricultural show, that you would attract a class of people who are now repelled from going to a fair on account of the large number of fakirs,—tents with fat women, snake charmers and high jumpers, and that class of shows. Many people, I do believe, not only from the city but from the country, are repelled from the fairs on account of the large space given and the prominence given to just this kind of shows and the small attention given to the real industrial show, to the regular agricultural exposition of the interests of our state. I am impressed with the idea that if we would make a little change and run into the other direction we would have a more appreciative audience and draw it from a class of people whom we do not now get but very little.

Now in regard to that Waukesha county fair that Mr. McKerrow mentioned. For the last thirty or forty years I have been going to fairs, county and state, more or less, and when it came to my knowledge in some way that out at that Waukesha county fair there were to be reasons given for the judging, in other words, that it was to be educational to a certain extent, I made up my mind that I would attend it. I was a faithful attendant for the three days that that fair was held and derived much pleasure and satisfaction from it. I spoke with other people in regard to it, and many of them said it was the first real good fair that they had had an opportunity of attending in their lifetime. And I might say practically the same thing of the fair held at the city of Wausau, in the county of Marathon, that has been spoken of. I attended that fair during the falls of 1900 and 1901, and I was impressed with the good work that was done at that fair.

Mr. Chamberlain: I want to second brother Carlyle's suggestion and to thank him for it, his suggestion about putting the stock in the old sheds where we cannot find them. This is true with a great many fairs.

We started last year a fair in connection with the states of

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Illinois and Wisconsin. The fair grounds are located in Illinois but we draw upon both states and have called our association The Illinois-Wisconsin Interstate Fair Association. Now in regard to showing stock. The president ordered the stock out on general parade. It was just at the noon hour. Exhibitors were rather loath to go, and they came around and said if we did not show our stock according to the program we would not receive our money, and we must come out, which we did. What do you think happened? When we got upon the track in front of the grand stand you tell about, there was some little horse man that had driven every man, woman and child out of that grand stand. We found every person out of the stand. I tell you, somebody heard something.

Mr. Hill: I do not want to seem to be criticizing our state fair management. I have been an attendant since 1887. When they did receive an appropriation what became of the money? They went and built a half-mile track inside of the other. I think that those who know me know that I would not be in favor of horse-racing. I do think we ought to make our fairs more educational,—and our Wisconsin State Fair,—if we are going to receive the support of the people of the rural districts of Wisconsin and not cater to the class of people who are now following this Jahr-Market in Milwaukee. The Wisconsin State Fair must set an example which will be a good example to the county fairs of the state.

Mr. Wright: There are a good many problems connected with a fair that I do not think the gentlemen who have spoken against the management fully understand. I recognize that what Prof. Carlyle says is so. But we cannot do all this right away. We have got to educate the people up to it. You have given your criticism about the fair. Now I want to say a word about our work up at Wausau, and what I say about the farmers I do not want to be taken personally, because you have got to educate the farmers just the same as you have got to educate the city people to appreciate what a live stock show is. I found when I came in, the gate receipts were only up to $100 and the farmers all wanted their premiums just the same; they wanted

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to come in if they brought an old scrub cow. We had to shut them off gradually. We at first hired some good herds to go there; we at first worked gradually in that line. Our fair is today stronger than it ever was. But you have got to stick to your horse racing now if you are going to hold a fair at all. The horsemen are largely racing for their own money, and the people who pay good money want to see a good race. You will have to make the change gradually. In criticizing any fair management, I think the farmers should consider it from every point. The farmers hate like the dickens to give up 25 or 50 cents.

Mr. True: I have been connected with the State Fair of Wisconsin for a good many years. I have been identified with it for perhaps the past fifteen or eighteen years. What Mr. Wright has said is true with reference to the improvements that have come. It may seem to Prof. Carlyle, who has only seen the fairs for the past few years, that they are going slowly. If some of the gentlemen present to-day will look back to five or six years ago, and recall the fakirs and the gambling upon the grounds, and compare the exhibits of agriculture and livestock of those days and the exhibits of recent fairs, I think they will recognize that there has been as much improvement in the fair management as in that of any other public institution in the state. If any man would take pains and time to go through the exhibits that we show in agricultural products and live stock, a whole building being devoted to the former, I think he would find reason for some encouragement and would say that the fairs are somewhat educational.

Now, you who have exhibits at the State Fair are very anxious that you get your premiums in full and we have always paid them in full. If this board does not make money enough at the State Fair to pay them, they go down into their pockets to pay you your money. Do not be too exacting in asking us to do these things all at one time. We are going just as fast as we can with due consideration of the conditions which surround us. If you will go home and influence the members of the legislature, or those who may represent you at the next ses-

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sion of the legislature, we may be able to carry out the suggestions, which are certainly necessary to a full understanding and apppeciation of the judging of live stock. It is impossible to carry on the work to the best advantage in an educational way, under the present conditions. When people can be comfortably seated to see these animals passed upon, when they may listen to the remarks of the judges, and when there can be a bulletin board upon which to show them the points of excellence found, we appreciate what can be done. We are working in that direction as fast as we can with the money that is available.

Mr. VanMeter: I believe a horse race is educational. I found my belief upon this fact, that I always see our ministers with their smiling faces sitting up in the grand stand, watching the race, but I never see them around the cattle ring.

Mr. Wright: I want to make a few suggestions that I found worked very well in our fair, and probably some of the farmers here who are interested in other county fairs could adopt some of those suggestions. I got up the program myself. The merchants had been paying about five dollars a page for ads in that book, and we had been giving it to the print, and they printed them for what they could get out of the advertisements. The man who advertised was not getting any benefit. I got the merchant to offer a special prize for something to go to some farmer. For instance, I would say: "Give $2.50 in trade out of your store for the best winter wheat. They will all read your ad." We got $2.50 for a half-page ad and also the premium. The merchant got his benefit and it attracted the farmer. Nearly every merchant took an ad. in that way. That is one suggestion that every county fair could use to some benefit.

Another little thing that we found attracted attention and interest: We got a deceptive beef animal and got a cigar man to offer a box of cigars to the one who guessed nearest the correct weight of the same. We had a book of twenty pages full of guesses. There were two men who guessed the exact weight. I had to beg another box of cigars.

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Last fall we had a plowing match. We had one one day and they wanted another one the next day.

This is what I mean by meeting the people half-way. We must meet them half-way. We have to meet the men who like the races half-way.

Mr. McKerrow: I want to say a word about the half-mile track. I might say the State Board of Agriculture stands between the city of Milwaukee and the state of Wisconsin. On the one hand, we found, as Mr. True has stated, we could not run a state fair without money. The old Agricultural society found that out years ago. We went into ur own pockets to pay our premiums. The city of Milwaukee came to our rescue and raised us $15,000. We felt like listening to reasonable suggestions from the business men of Milwaukee and have always felt like doing so. One of the suggestions was that we build a half-mile track, because of two reasons. First, we could get more people to locate on our fair grounds during the summer time to train their horses and pay the stall rent and the training privilege, and that would bring in some income. On the other hand, the driving clubs of Milwaukee had intimated that they would use our tracks for their driving meetings in the summer time, and that would give us additional revenue. It was also reasonably argued that if the Milwaukee men came out there to drive their horses they would naturally get interested in the fair. The board, after a good deal of careful consideration, decided to satisfy all parties, and we built that track. But before we did that, we built an avenue across the fair grounds from the fine arts building to the live-stock department, and it seemed to shorten up the distance; more people got over there on account of that avenue. We tried to balance things up between the city of Milwaukee and the state of Wisconsin. I am glad this discussion came up, and I think it will be admitted, as Mr. True says, that we are doing our best.

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STATE CROP REPORT, 1902.

APRIL 1.

CROP PROSPECTS.

The season, just opening, is slightly earlier than an average of the past ten years, in Wisconsin, and in many parts of the state, seeding has been actively commenced.

The soil is in good condition for handling, and the conditions are favorable for the germination of grain seeds, but in the southern part of the state, the fall of snow and rain, during the winter and early spring has been insufficient to thoroughly moisten more than the surface soil, and, as below two feet of the surface, the earth has not been saturated since the drouth of 1901, copious and frequent showers are needed to prevent like disastrous results in 1902.

Scarcely any snow fell during the winter, in the southern central and southern portions of the state, and the spring rains have been light and infrequent.

An unusual amount of plowing was done last fall, which will enable farmers to sow their grain fields early, and if these are properly fitted, they have the advantage over spring plowed fields, in retaining moisture already in the soil.

Winter grains are almost universally reported as being in good condition, and are now well past any danger from frost.

Meadow and pasture prospects are very generally poor, or at best only fair. This is especially the case with clover meadows.

The catches of new seeding of meadows in southern Wisconsin last season were lost in the sharp August drouth, while the fields of clover from the seeding of 1900 were either mowed a

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second time or closely pastured in the fall, and though the winter was not a severe one, these are very generally killed.

Stock was allowed to run upon pastures late in the fall, and little grass was left upon them either for protection or helping out the early feed, and without the very best conditions of weather, they will be late in furnishing any valuable feed for stock.

The gloomy outlook for pastures and meadows should lead farmers to give special thought to providing extra forage crops, both for supplementing pastures, and providing dry fodder, in case of shortage of ordinary fodder crops.

Those parts of the state that did not suffer from the drouth of last season have had heavier falls of snow and rain during the past winter and early spring, and start out with an advantage in crop prospects for the season of 1902.

LAST YEAR'S PRODUCTS IN FARMERS' HANDS.

Reports from correspondents indicate that quite a percentage of the wheat crop of last season remains in farmers' hands.

There is also in many of the central and northern central counties a surplus of oats and hay.

Rye and barley have been used for stock feed to a greater extent than usual, and the amount in farmers' hands, for sale, is inconsiderable.

There is little corn to spare.

In the potato counties of the state we find as large a percentage of crop as usual in spring, still held for sale, while in the southern part of the state, there is a shortage and prices are very high.

Our reports of local prices, received from correspondents, range from 50 cents to $1.00 per bushel,—with 80 cents the average price in potato districts.

The prices of the principal farm products for the whole state are found to average as follows:

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Wheat	70 cents per bushel.
Rye	51 cents per bushel.
Barley	57 cents per bushel.
Oats	41 cents per bushel.
Corn	60 cents per bushel.
Potatoes	80 cents per bushel.
Tame hay	$11 per ton.
Wild hay	$7 per ton.

In our report, to be issued May 1st, we hope to be able to indicate the crop acreage of state for the coming season.

MAY 1.

The weather during the month of April, while not at any time severely cold, was uniformly cool and backward, and notable for unusually high, dry winds, the rainfall being extremely light.

As a result of these unfavorable conditions, the apparent earliness of the season at the commencement of the month was soon lost.

Vegetation was slow in coming forward, grain lying a long time in the ground before germinating; and in some sections seeding was much impaired by rotting and freezing.

Winter grain lost a few points during the month, and meadows made little gain. Pastures were uniformly short and bare, and, in many parts of the state, shortage of hay caused farmers to turn out sheep and cattle to still further retard the growth of grass.

Farmers were, with good reason, becoming apprehensive of another season of drouth; but during the last part of the month light showers were quite general over the state, and at the time of writing this report, indications of heavier rains are hopeful.

One object of the inquiries of correspondents upon which this report is based, was to ascertain the evident increase or decrease of acreage of the crops already sowed, as well as that of tame meadows and pastures.

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Our reports show that the acreage of spring wheat has been slightly increased, being 101¼% of last year's area.

They also show that the acreage of spring rye in the state is inconsiderable, and that the crop has little importance.

The barley acreage is shown to be 98%, while oats advance to 105¼%. Many acres of tame meadow, especially those of clover, have been rendered unprofitable by winter-killing, and will be plowed up,—the remaining acreage being estimated at 92%; while for the same reason, the percentage of tame pastures falls to 97.

The spring-sowed grain crops, May 1st, are almost without exception reported by correspondents as being in good condition, and growing rapidly; winter grain as fair, and clover meadows as poor.

We find that 70% of the growing wheat in the state is spring sowed.

Alfalfa has been tried in but few counties, but the reports of trials made are generally favorable, and further and more extensive trials will be made. Oats are being quite extensively treated for the prevention of smut, in accordance with the formula sent out from our Agricultural Experiment Station.

Soil conditions are favorable for the present requirements of crops, but to sustain these conditions, frequent rains will be required during the coming month.

Fruit trees of all kinds are in excellent condition, and will blossom heavily.

Farm stock goes upon grass in unusually thin flesh, and butcher's stock must remain scarce and high priced for some time, while dairy cows are not in form to produce the best results.

Our report, issued June 1st, will show the percentage of acreage of crops planted in May, and the general condition of all crops June 1st.

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JUNE 1.

The leading inquiries of correspondents for the report of June 1st were of the comparative acreage of principal crops, not already reported, with that of last year and the condition of growing crops.

Reports have been received from fifty-six of the leading agricultural counties of the state, and indicate exceedingly hopeful conditions for all crops. As was anticipated, the increase of acreage of corn, potatoes, and tobacco is marked, over that of last year: the corn acreage being increased 4½ per cent., that of potatoes 5 per cent., and of tobacco 10 per cent.

The disposition to plant more corn is almost universal throughout the state. The high price paid for potatoes the past season has stimulated farmers to add to their acreage in all parts of the state adapted to the crop.

The increase of acreage of tobacco comes mainly from Vernon, Crawford, Monroe, Jackson, and Trempealeau counties, with a slight advance in Dane and Columbia.

With full estimates of acreage of crops for the season we note a decided tendency to lessen the production of wheat, with a like disposition toward rye and barley,—while the acreage of corn and oats, the best stock feeds, is decidedly increased.

The reports of condition of crops, 100 representing an average, show winter wheat and rye 100, spring wheat 105, barley 102¼, oats 105, tame meadow 105¼, pastures 106¾, apples 102, small fruits 87.

The abundance of rain during the past month has caused a very strong growth of grass and grains, and present prospects could not well be brighter for yields of these crops.

The weather was not favorable for preparation of soil for planting of corn and potatoes, and as a result quite a percentage of these crops in Central and Northern Wisconsin had not been planted June 1st.

Early planted fields on hill sides have been badly washed. The ground being too wet for cultivation has also become packed and weedy.

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But little complaint is made of failure of seed corn in germination and fair stands are noted.

In parts of the state in vicinity of Beet Sugar Factory at Menominee Falls, extending even as far as Brown county, an increased acreage of beets is reported, the same to be worked up at the factory.

Apples have set nicely and there are now indications of a good crop. The same conditions apply generally to small fruits with the exception of raspberries, which are badly winter killed.

Very little damage to vegetation is reported from the snow storm early in the month or frosts that occurred later, the same not being far enough advanced to receive injury in those parts where frosts were severe. Crops have been injured by hail storms in a few instances, notably in parts of Winnebago county.

JULY 1.

The cool, wet weather during the month of June, was specially adapted to the strong and healthful growth of small grains and grasses.

Little rust or smut is reported, and no mention made of ravages of chinch bugs, in winter grains.

The only probability of danger to grain crops, especially that of oats, is, that upon rich soils, so large a growth of straw may be gained as to result in early lodging. Indeed, many fields of oats are already badly lodged before heading, and cannot be counted upon for a full field of grain. Barley, while also lodged, is further advanced, and promises a crop equal to the percentage reported below, while I fear that the report for August 1st, upon oats, may fall below present indications.

A heavy crop of winter grains is now practically assured; and spring wheat is also very promising.

Central and northern Wisconsin have an exceptionally heavy tame hay crop, that is now ready for the mower.

Most clover fields should have been cut before this time, and

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undoubtedly would have been, had the weather been favorable for curing the crop.

Most hay that has been cut has been more or less injured by rain, and loss is also now occurring to standing grass, from over-ripening, and rotting at the bottom.

In southern Wisconsin there is little clover,—June grass and timothy being the prevailing grasses.

These have made a luxuriant growth, but in many localities are thin upon the ground, so that no more than an average crop of tame hay will be secured. Pastures are universally reported in excellent condition, and live stock is thriving finely.

The weather during the month has been unfavorable for the growth of cron; and while good stands were usually secured, the plants have not grown, while lack of vigor has made them more susceptible to the ravages of cut worms and grubs, of which we have much complaint.

"July and August maks the corn crop," but these months must be hotter and drier than June has been, if we are to have an average corn crep.

Potatoes are generally reported in average condition, though some complaint of poor stand, caused by too much wet and rotting seed, comes from the northern part of the state.

Tobacco plants have been set under the best conditions, but are not growing rapidly, and cut worms have somewhat interfered with the stand.

The crop needs warm weather. Condition is reported more favorable from Rock, Dane and Columbia counties than from Vernon, Crawford and Monroe.

In the section of the state where the crops are specialized, beans, flax, sugar beets, and buckwheat are reported in average condition; while sorghum, like corn, is small and backward.

The cool, wet spring and early summer has already blasted the hopes of a heavy apple crop in Wisconsin.

Much of the young fruit has fallen, while blight is unusually prevalent, injuring both fruit and trees.

The estimated percentage of apples, given below, is surprisingly low,

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Plums, cherries and grapes, like apples, will be less than an average crop.

While the temperature was dangerously near the freezing point, several times in June, no very serious damage to crops, from frost, is reported, even from the northern counties.

Southwestern Wisconsin reports hail and wind storms, seriously damaging crops and even buildings.

Our farmers are now as anxious for sunshine and hot weather, as a year ago they were for rain and refreshing breezes.

Below we give the consensus of reports received from correspondents throughout the state, of the condition of the various crops July 1st 100 standing for an average Wisconsin crop.

Winter wheat	102
Rye	103
Spring wheat	102
Oats	103¼
Tame hay	101¼
Pastures	106½
Corn	80
Potatoes	95½
Beans	96
Sorghum	82
Tobacco	100
Flax	100
Sugar beets	101
Buckwheat	101
Apples	70

AUGUST 1.

Harvesting of all crops, up to date, has been performed under most discouraging circumstances.

All of the tame hay crop should have been secured before August 1st, but in some parts of the state quite a percentage of the grass is still standing, though over-ripe, and consequently much diminished in value.

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Of the tame hay already harvested, it is estimated that only about 70 per cent. was secured without serious damage from rain.

The hay crop of southern Wisconsin is not to be first class, either in quantity or quality, the growth being too coarse and heavy, and the quality seriously injured by rain at time of curing. Many marshes at this time are too wet to admit of cutting with mowers, and the prospects are that not one-third as much wild hay will be cut this season as was secured last.

Winter grains were harvested in fair condition and are generally of excellent quality; some early threshings, already reported, show high yields. All spring sown grains have been more or less injured by lodging; spring wheat the least so and it will be an average crop, both in yield and quality.

Barley, while giving a larger yield than usual, is not generally of high quality, the lodging and extremely hot weather having colored the grain, and in other ways affected the merchantable grade.

Oats never promised a larger yield than at the time of making our last report, but heavy rains, in many instances, accompanied by high winds, badly lodged grain, upon most promising fields, and materially injured the prospects of the crop, both by inducing rust, preventing the complete filling, and also causing heavy waste in harvesting. Farmers are now in the midst of their oat harvest, and in spite of loss, the crop is evidently to be more than an average one.

We asked our correspondents to estimate the percentage of loss that will probably result from lodging in oats, and the answers give the loss at 13½ per cent. of the prospective crop.

Corn, notwithstanding unfavorable weather, has made a good growth, and is generally in a thrifty condition, though backward, and the future of the crop largely depends upon the length of season and hot weather.

Potatoes are generally reported in excellent condition, though we hear some complaint of rotting among early varieties.

Beans, sorghum, flax and buckwheat are favorably reported.

Tobacco, as a whole, is reported an average crop, Rock, Dane

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and Columbia counties holding a higher condition than Vernon and Crawford.

Apples will not be a full crop, and many orchards will be seriously and permanently damaged by the blight so common this season.

High land pastures are exceptionally good, and stock is doing well, except where molested by mosquitoes and other insects that are especially troublesome.

Marsh pastures are practically inaccessible to stock on account of excessive rains.

Reports of correspondents give the following percentages of an average crop, as shown by present conditions:

Spring wheat	100
Barley	102½
Oats	99½
Pasture	116
Corn	88
Potatoes	102
Beans	102½
Sorghum	95
Tobacco	100
Sugar beets	100
Flax	98
Buckwheat	101
Peas	95
Apples	66

No crop report will be issued from this office Sept. 1st, on account of pressure of state fair work.

OCTOBER 1.

The crop report for October 1st deals with those crops not harvested at date, and which may not yet be fully matured.

These crops have been slow ripening, on account of the excessive rainfall during the season, and the corresponding absence of sunshine and hot weather.

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As a result, the general frost, occurring early in September, found them in form to receive serious injury.

The growth of corn has been exceptionally heavy, and with sufficient time for maturing the crop, it would have been considerably above an average.

It is now somewhat difficult to closely estimate the extent of the damage from frost, as in the same locality some fields are completely killed, others only partially so, while still other favored locations escape without serious injury.

Rock and Walworth, two of the largest corn producing counties in the state, report the crop in the best condition,—about 90 per cent. of a full crop,—while the average percentage in other counties, usually classed in the corn district, have an average of from 70 to 75 per cent.

The reports from the whole state force us to place the general average at 70 per cent. of a full crop, and we fear that if placed upon the basis of merchantable corn, the percentage would be driven still lower.

Much of the corn, in farmers' hands, will have a high feeding value for use of the farm, but would not be recognized on the markets.

The estimated percentage of a full crop of corn, at a corresponding date in 1901, was also 70, but the general quality was then better than now.

Much of the corn, caught by the September frosts, remains standing, and the heavy rains of the past week have practically completed the ruin of the feeding value of the fodder; while much of that in shock has been damaged by rain and unfavorable weather for curing.

Potatoes, next in importance to corn, among our late maturing farm crops, are usually reported in good condition, though we have several reports of rotting in the field.

The wet weather of the past week has added to this danger, and the character of the weather for the next two or three weeks will have much to do with the quality of the late potato crop.

Reports from the leading potato growing counties, Adams, Portage, Waushara and Waupaca are encouraging. We place

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present potato indications at 92 per cent. The clover seed crop is necessarily confined largely to that part of the state not visited by drouth last year, and in these sections the crop is a fair one.

The percentage for clover seed for the whole state is 75. Buckwheat is reported at 86, sorghum at 77, beans at 98, and late varieties of apples at 85.

Pastures are in excellent condition, and the weather has been favorable to the growth of fall sown grains.

In our next report, to be issued December 1st, we will endeavor to give a close estimate of yield per acre of the several important crops of the state, for the season of 1902.

DECEMBER 1.

The season of 1902, as a whole, has been a favorable one for the Wisconsin farmer. The yield of most crops has been above the average, while prices have been satisfactory.

The market for all kinds of farm stock has been active, and prices have been and are high, for desirable animals.

Farms are generally well stocked, and the supply of winter feed is abundant. Pasturage has been excellent, and the hay crop was above the average in yield, though considerably damaged in process of curing.

Small grains made a strong growth, and the oat crop, on rich, heavy soils, was considerably injured by lodging; but for this the yield would have been phenomenal, as shown by the high average still reported.

The yields of wheat, rye, barley, and oats, is decidely above the average of these crops, for the past ten years.

The season has in no way been a favorable one for the corn crop. The wet, cool, early summer retarded the growth of the plant, while July and August, the corn months, were not hot enough to develop the grain; and at the time of the first heavy frost, early in September, few yields were beyond the point of damage, and except in the southern tier of counties, and in favored locations further north, the loss was great.

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We find it extremely difficult to estimate the value of the present crop. More than half of the acreage was cut and shocked about the time of the September frost, but a large part of this still remains in the field, neither grain nor fodder having been in condition for storage.

Hardly 30 per cent. of the entire crop of the state would be classed as "merchantable" in the market, though much of the remainder has a high feeding value, upon the farm.

The reports of our correspondents as given in the following table, are intended to cover all that part of the crop having high feed value. Fodder has been seriously injured by exposure, and moulding in the shock.

The potato crop is better than an average, and prices have been quite favorable; still nearly one-third of the surplus crop is reported to be stored for later markets.

The acreage of tobacco was largely increased the past season, and it has been demonstrated that the crop can be successfully raised in almost any part of the state. The yield has been heavy, and prices are good.

The following estimates of yield per acre of the various farm crops of the state, are based upon the reports of conservative, reliable farmers, from nearly every county in the state that has any considerable agricultural standing, and while they seem, at first, to be high, are corroborated by local conditions, in almost any community.

	Average yield per acre.	Price, Dec. 1.
Wheat (bushels)	20	$0.65
Rye (bushels)	21	.46
Barley (bushels)	35	.45
Oats (bushels)	40	.28
Buckwheat (bushels)	18	.60
Clover seed (bushels)	2½	5.00
Flax seed (bushels)	15	1.06
Corn (bushels)	30	.46
Potatoes (bushels)	100	.35
Beans (bushels)	10	2.00
Peas (bushels)	20	1.00
Tobacco (pounds)	1,500	.08
Tames hay (tons)	1⅛	8.00

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In making an estimate of the total acreage of the various crops, we have made the U. S. Census report of 1900 the basis, increasing or diminishing the figures there given, as we are advised of the increase or diminution of acreage of any given crop.

Our last year's estimate was necessarily based upon the reports of assessors, as published in the reports of the Secretary of State.

These reports are unreliable, and compared with the census reports, are found to be very much lower than a careful investigation shows the facts to be.

We have used the yields per acre, and prices given in above table, and reach the following conclusions relative to acreage, yield, and value of crops of the state for 1902:

	Acreage.	Number of bushels.	Value.
Wheat	550,000	11,000,000	$7,150,000
Rye	360,000	7,560,000	3,477,600
Barley	550,000	19,250,000	8,662,500
Oats	2,375,000	95,000,000	26,600,000
Buckwheat	38,000	684,000	410,000
Flax seed	10,000	150,000	159,000
Corn	1,500,000	45,000,000	.....
Potatoes	258,000	25,800 000	9,030,000
Beans	12,000	120,000	240,000
Peas	67,000	1,340,000	1,340,000
Tobacco (pounds)	40,000	60,000,000	4,800,000
Tame hay (tons)	2,395,000	4,490,625	35,925,000

No further reports will be issued from this office before April, 1903.

JOHN M. TRUE,
Secretary.

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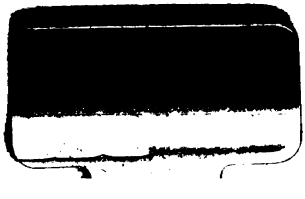

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